NOVEMBER, 1919

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THE FAR EASTERN REVIEW

ENGINEERING FINANCE COMMERCE

Partial List of Contents

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The Far Eastern Review

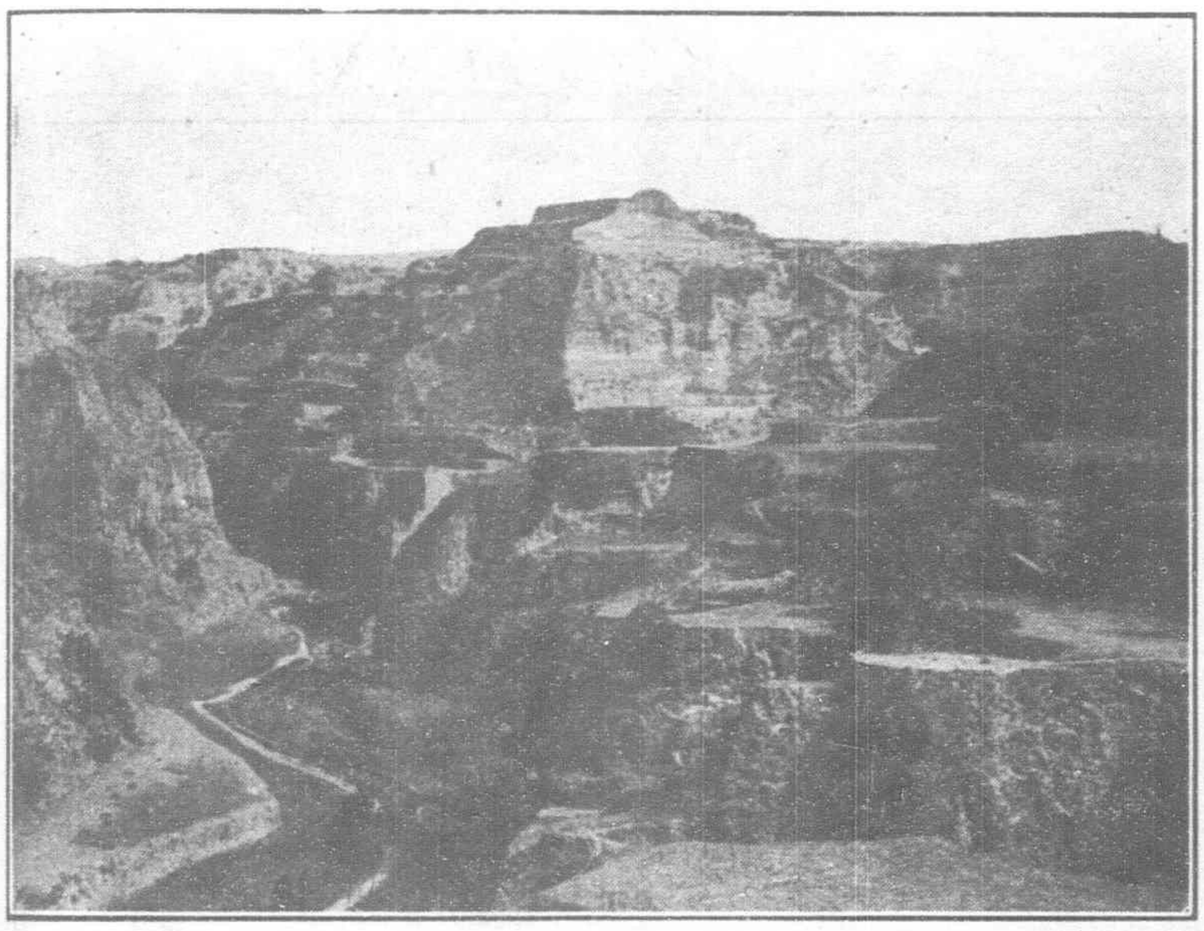
ENGINEERING FINANCE COMMERCE

VOL. XV SHANGHAI, NOVEMBER, 1919 No. 11

The Development of China's Central Provinces

The Importance of the Lunghai Railway

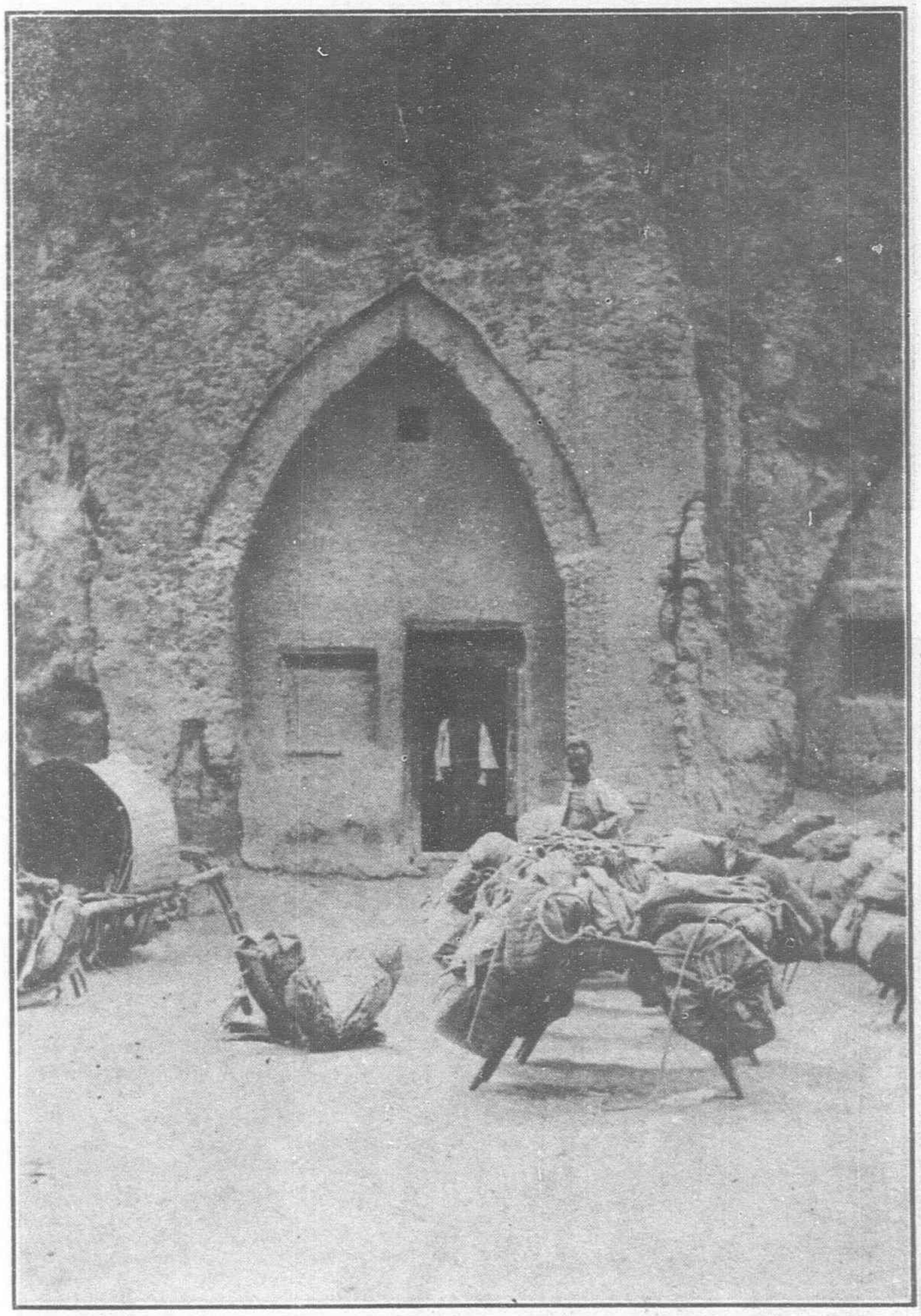
If China were to be developed according to a comprehensive plan, the Lunghai Railway, of which only about 350 miles out of 1,600 have been constructed, would have a first claim on the limited financial resources at present available for the purpose.



A LOESS CANYON TERRACED FOR CULTIVATION. THE COUNTRY TRAVERSED BY THE RAILWAY IS SCORED BY MANY SUCH

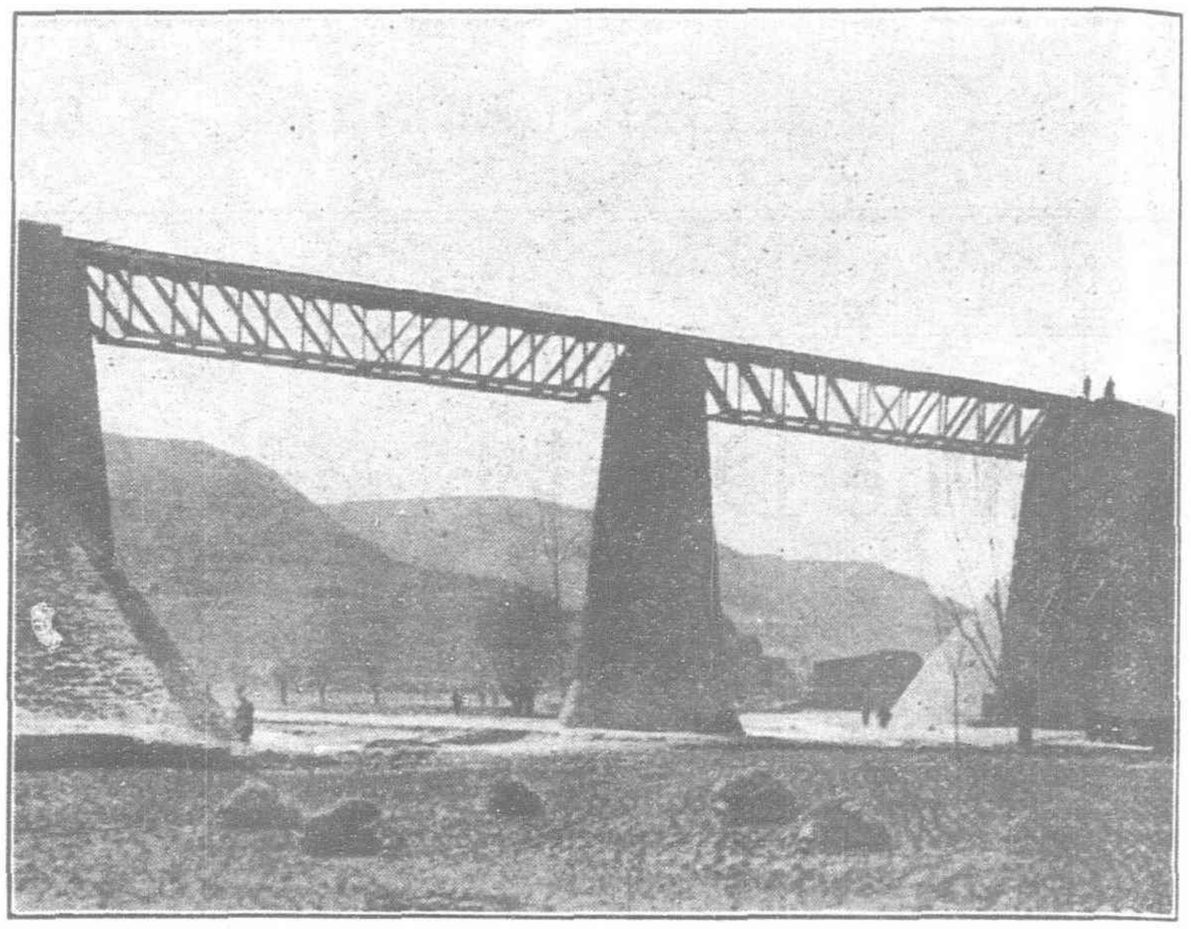
The urgency of completing the line is determined by its unparalleled importance from a strategical, political and economical point of view. Starting from the sea in the vicinity of Shanghai it will traverse the whole of China, between the Yangtze and the Yellow Rivers, from east to west; gaining access to the Western Provinces through the historical and most practicable pass of Tungkwang. The Lunghai crosses the two main lines running North-South, the Tientsin-Pukow and the Peking-Hankow, each about 800 miles long. The third main line running in the same direction, viz., the Tatung-Chengtu Railway, which has been contracted for, but on which construction has not yet been started, will also be crossed about half way by the Lunghai. A glance at the map suffices to show the extremely favorable geographical position of the latter. In the April, 1913, number of the FAR EASTERN REVIEW, we described the country traversed by this railway. As to the natural resources of the regions which will be dependent on it for their import and export trade, and therefore for their modern industrial development, the teeming millions they already sustain are sufficient proof of a considerable agricultural wealth; while coal, iron and other minerals are found in close proximity to the line. The provinces of Shansi and Shensi are known to contain coal deposits which are the richest in the world. At present the railway which has not yet entered Shansi, carries principally groundnuts, cotton, hides, tobacco and coal outwards, and tea, cotton goods and kerosene inwards. Production and trade generally have been given an impetus by the section of the railway so far operating which it is interesting to study, as showing what railway development will do in China.

The country about Kaifeng, the capital of Honan Province, is about the poorest traversed by the railway. The soil is very sandy and in ordinary years could only produce just enough to keep the population alive; any prolonged period of drought used to cause famine and there was no accumulation of wealth to fall back upon. It is no wonder that under the Ming Dynasty the Government felt compelled to issue

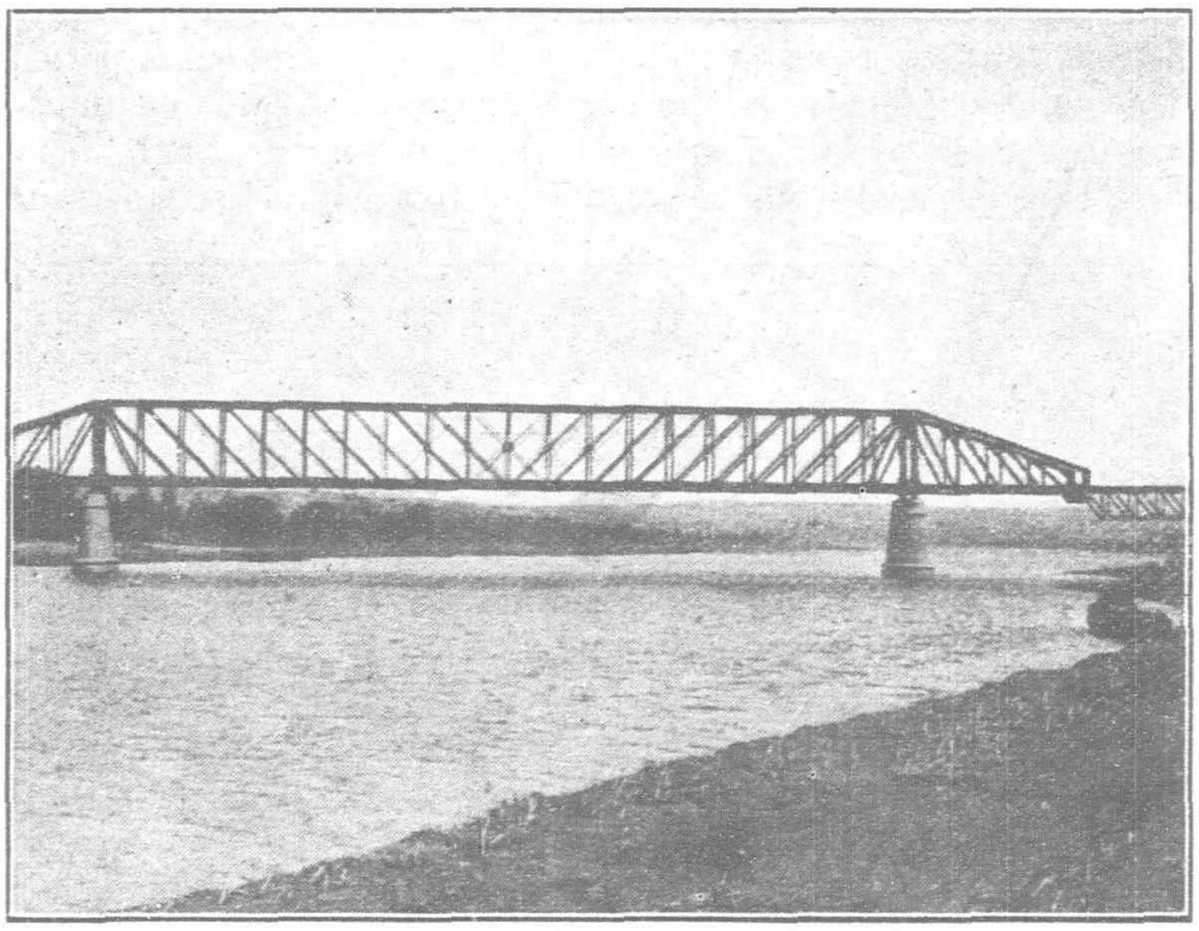


A CHINESE INN CARVED OUT OF THE LOESS NEAR SHENCHOW, HONAN. NOTE THE PACK SADDLES IN THE FOREGROUND. THEY ARE CONSTRUCTED SO AS EASILY TO BE DETACHED WITH FULL LOAD FROM THE ANIMALS CARRYING THEM

THE RAILWAY STATION AT KWANYINGTANG—AT PRESENT RAILHEAD OF THE LUNGHAI LINE IN HONAN



A BRIDGE 62 KILOMETRES FROM PIENLO

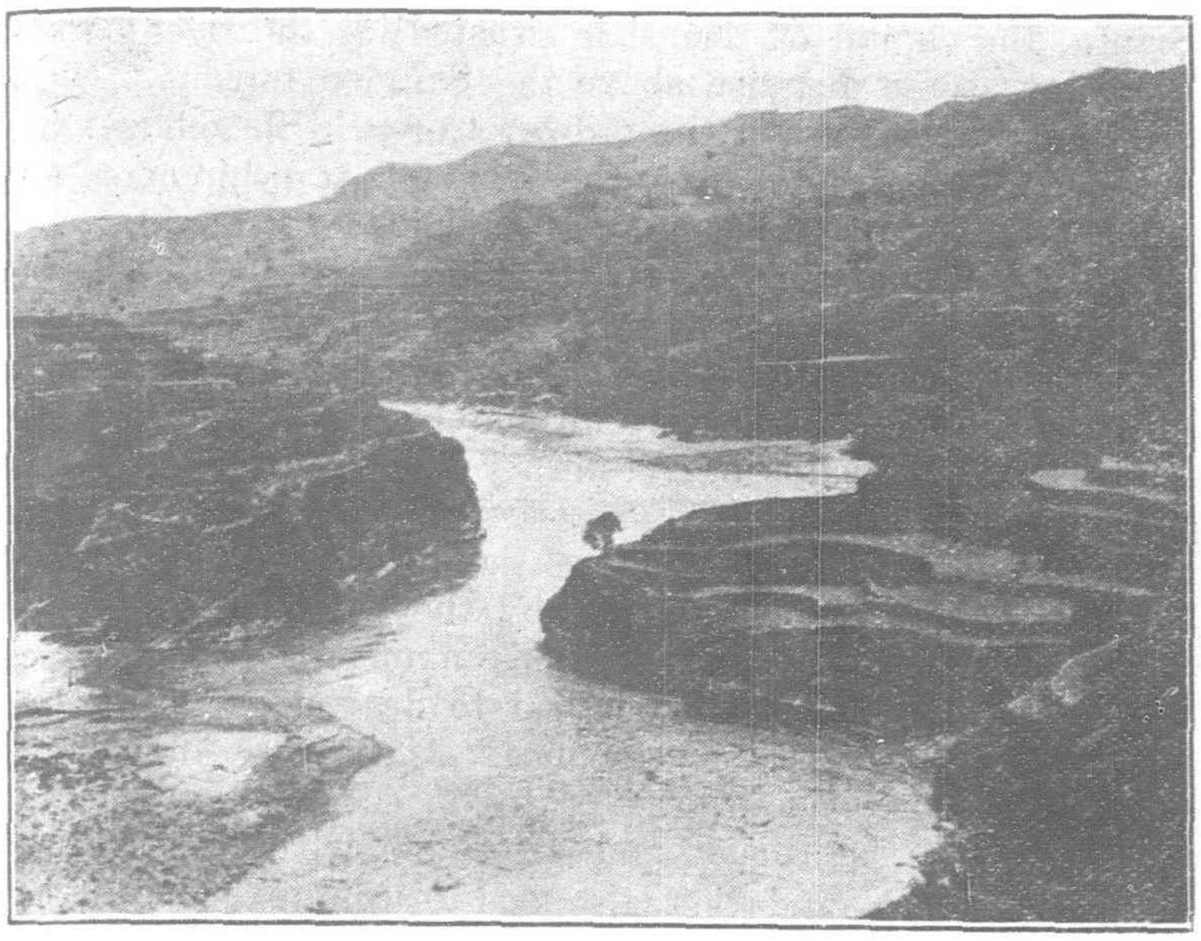


THE BRIDGE OVER THE LOHO

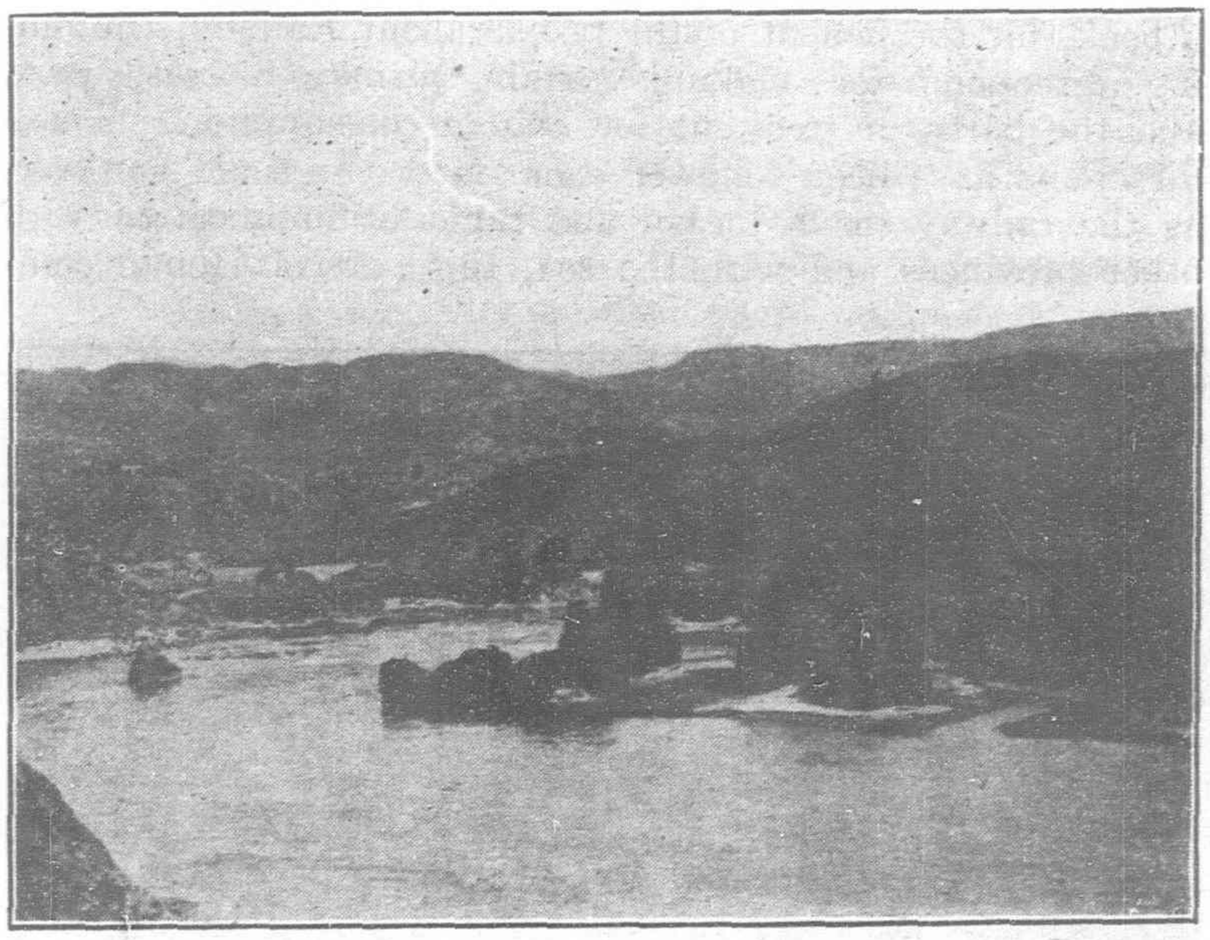
COTTON AWAITING SHIPMENT AT MIENCHIH, ON THE LUNGHAI RAILWAY

THE EASTERN GATE OF KAIFENG, THE CAPITAL OF HONAN PROVINCE

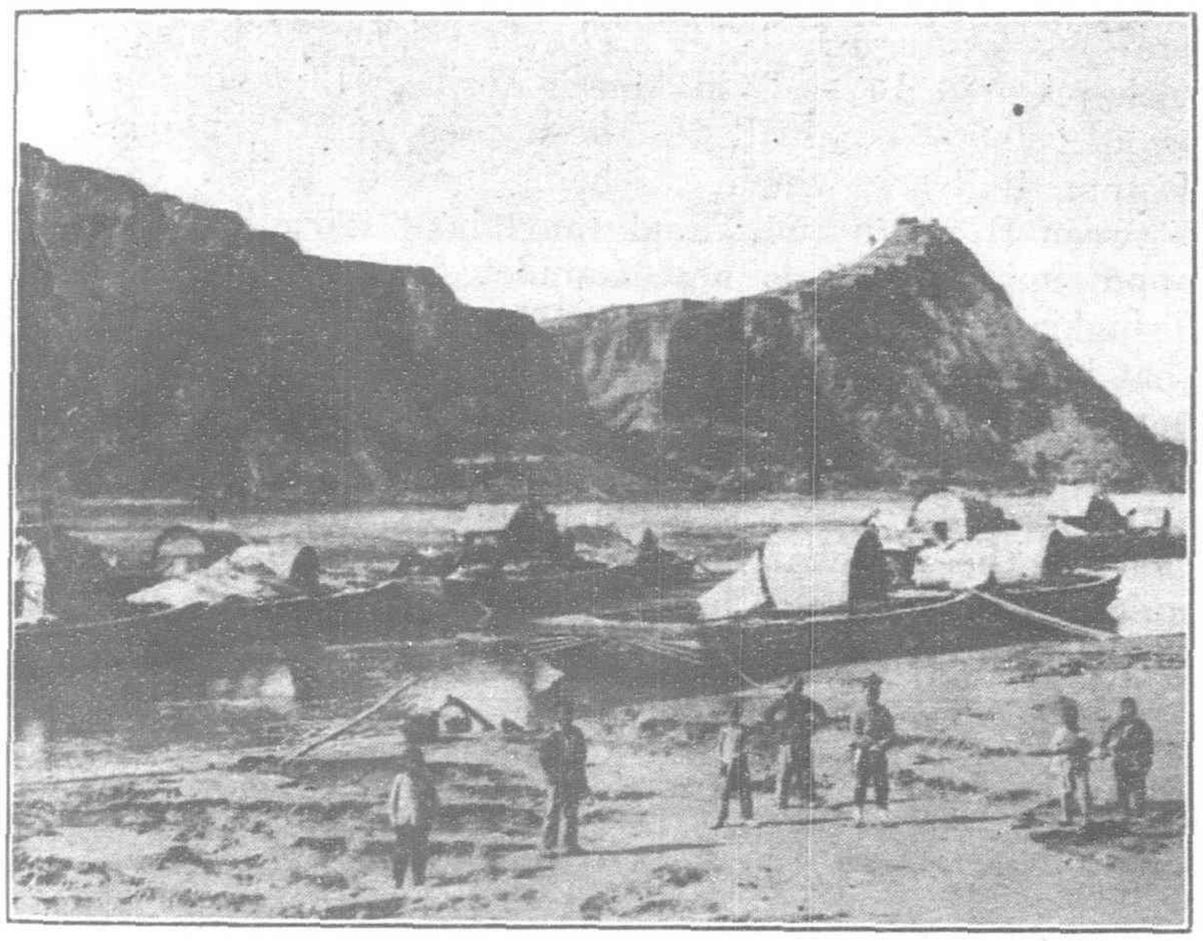
A STREET IN KUNGHSIEN CITY, HONAN



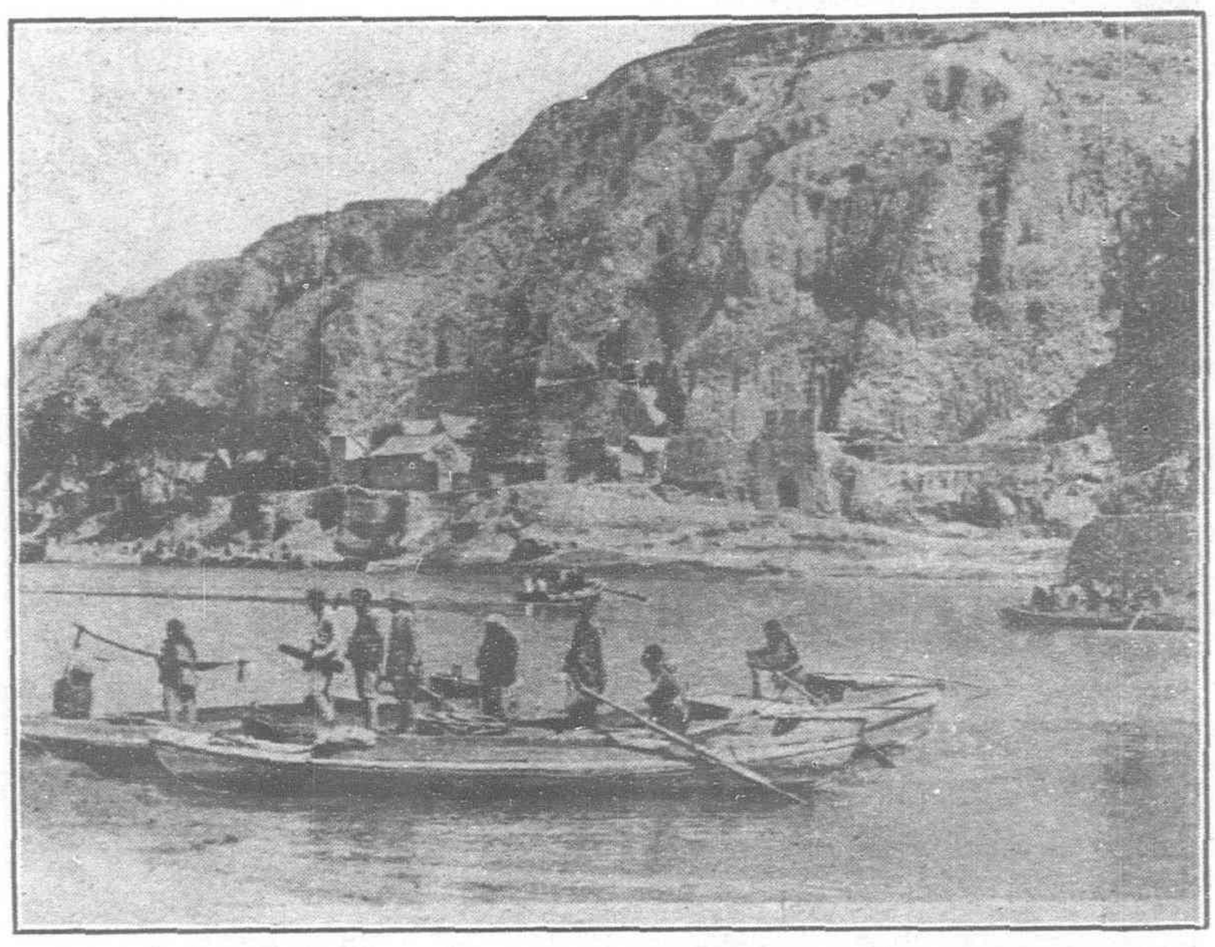
SANMEN RAPIDS ON THE YELLOW RIVER NEAR SHENCHOW



A VIEW OF THE SANMEN RAPIDS, NEAR SHENCHOW

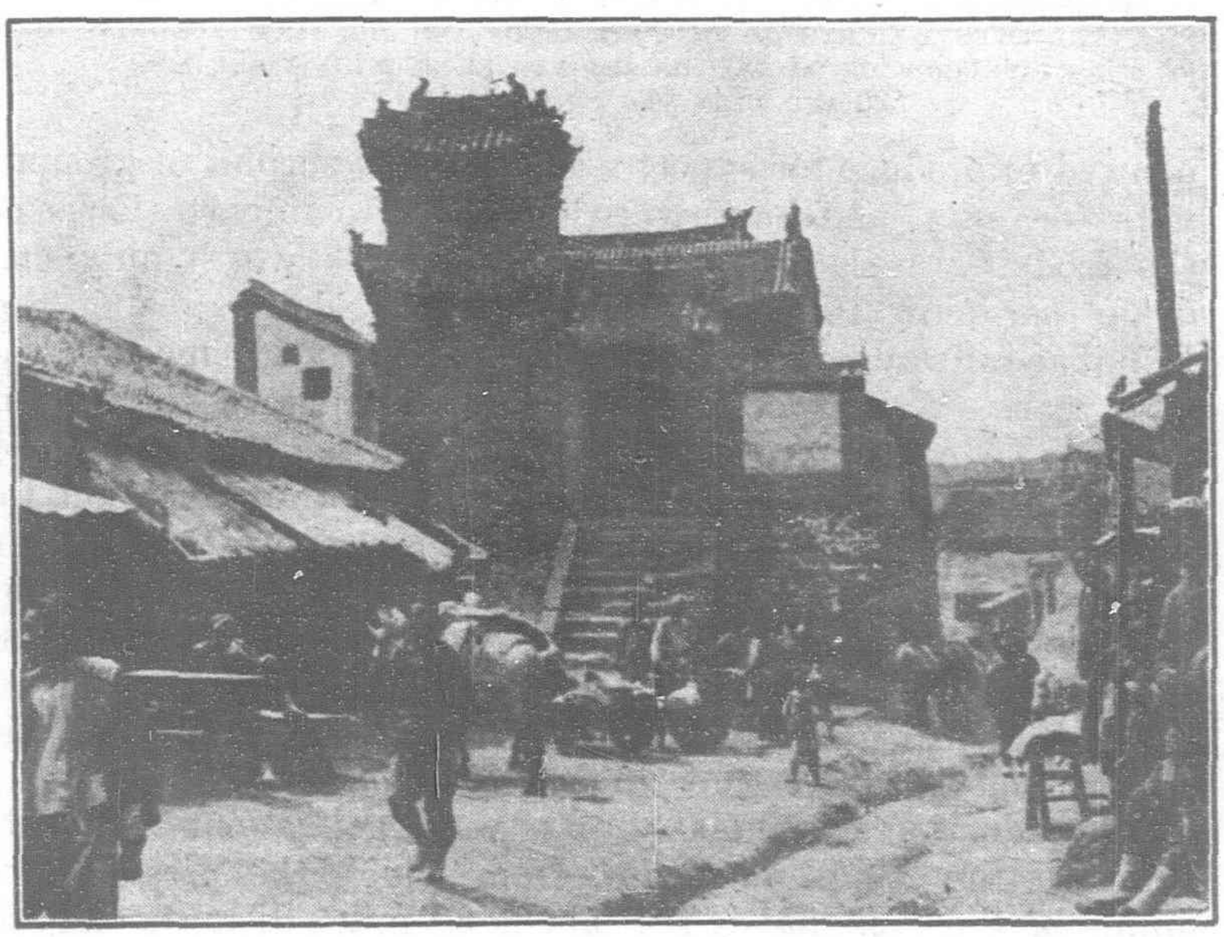


CARGO BOATS ON THE YELLOW RIVER AT SHENCHOW, HONAN



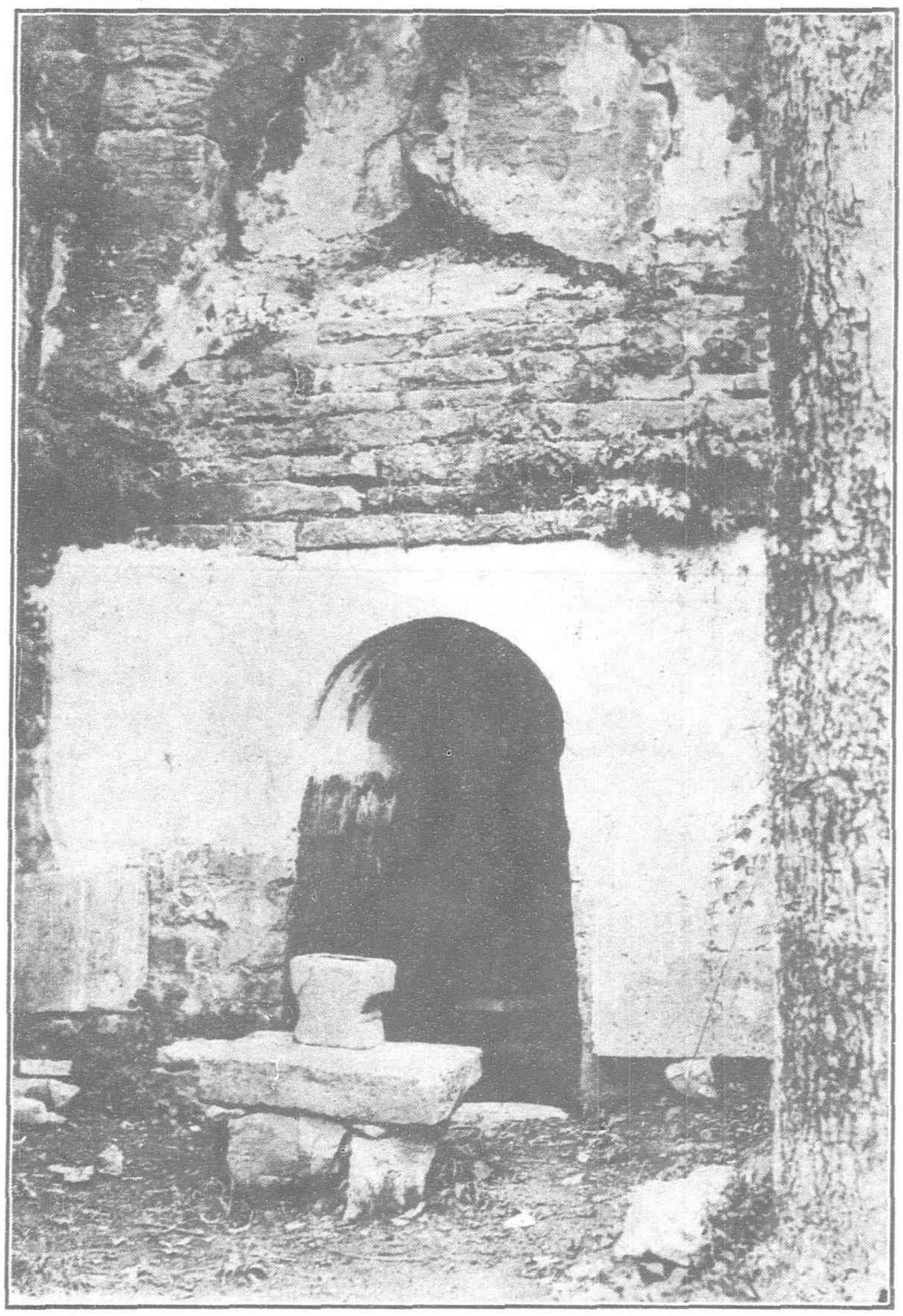
A SCENE ON THE LOHO. NOTE THE HOUSES CARVED INTO THE SIDE OF THE LOESS CLIFF

NORTH GATE OF HSUCHOWFU, KIANGSU PROVINCE. HSUCHOWFU IS THE JUNCTION OF THE LUNGHAI AND TIENTSIN-PUKOW RAILWAYS



A SCENE AT TZECHUNG, HONAN

a book, for the benefit of the people about Kaifeng, containing directions for making certain plants, mosses, roots and the barks of trees, fit for human consumption. These directions have been followed ever since. As soon, however, as the railway insured easy and rapid communication with other provinces and with the sea, this part of Honan com-

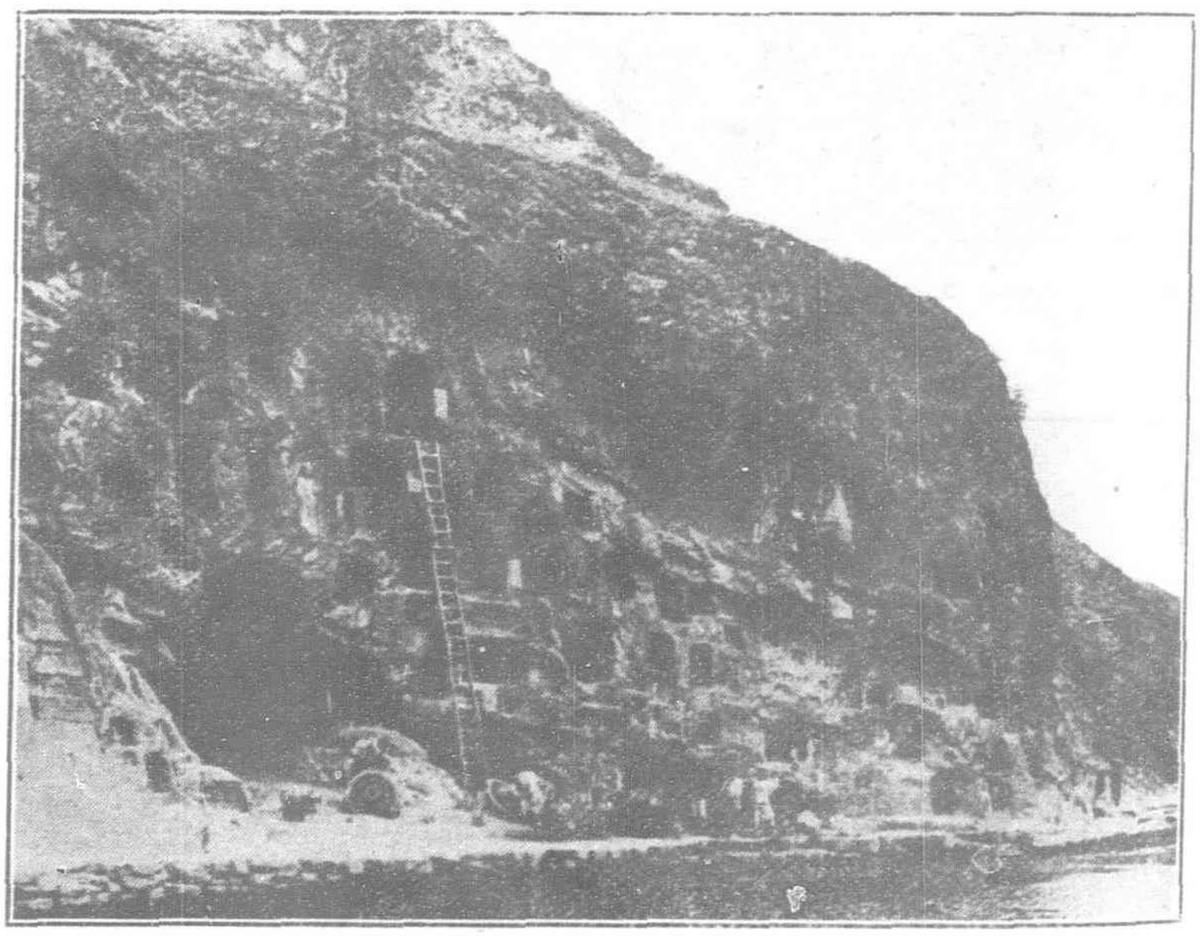


THE GROTTO AT SHAOLINSZE, NEAR SUNGSHAN, HONAN, WHERE BODHIDHARMA LIVED FOR NINE YEARS. HE IS CALLED TAMO BY THE CHINESE, AND WAS THE TWENTY-EIGHTH OF THE PATRIARCHS AND THE FIRST BUDDHIST PATRIARCH OF CHINA. HE ARRIVED FROM INDIA ABOUT A.D. 520 AND DIED ABOUT NINE YEARS LATER

menced to produce for export a considerable surplus of groundnuts (peanuts) and became rich enough to import stocks of the food it was lacking. Land which was worth only one dollar per mow rose to ten and twenty dollars, and the Lunghai railway carried about 54,000 tons of groundnuts the first year. We notice a similar development in the cotton trade. No cotton grown west of Honan could formerly be exported on account of the heavy cost of transportation by mule or wheelbarrow. At present large quantities of this product raised in Shansi and Shensi reach Hankow and Shanghai viâ the Lunghai, the Peking-Hankow line, and the Yangtze river. Another article which is being carried in increasing quantities by the railway is the salt taken from the famous lake of Hotung, in Shansi, about one-third of the total production of 90,000 tons a year going out by rail. Through the Tungkwan pass, from which the present terminus of the Lunghai is still about 30 miles distant, endless trains of mule-carts, wheelbarrows, camels and carriers, wind their way eastwards toward railhead. Swarms of junks discharge their cargoes coming from the west by the Yellow River and its great tributary, the Wei River (on which Sianfu, the capital of Shensi is situated) at the river port of Shenchow some distance above the Sanmen rapids.

It is imperative for the railway to reach Shenchow without delay in order to save the cost of transhipment and transportation by road. As is explained further on, once Shenchow is reached, the construction westwards to Sianfu will not present any great difficulties. The section through Kansu Province will tap the resources of vast regions now practically isolated and will ultimately reach Chinese Turkestan and the plains of Western Siberia. Although at the present time these remote territories are only sparsely settled and contain a large area of barren land, yet the route leading through them was chosen once by the great Jenghiz Khan when he invaded Europe with his numerous hordes which throughout their great march had to depend exclusively on local resources for their sustenance. Agriculture moreover is not always the principal factor to be considered when the time comes to figure out and determine whether a railway will pay or not, and there is good reason to suppose that great mineral wealth is hidden in the vast expanse of country between Lanchow and Siberia.

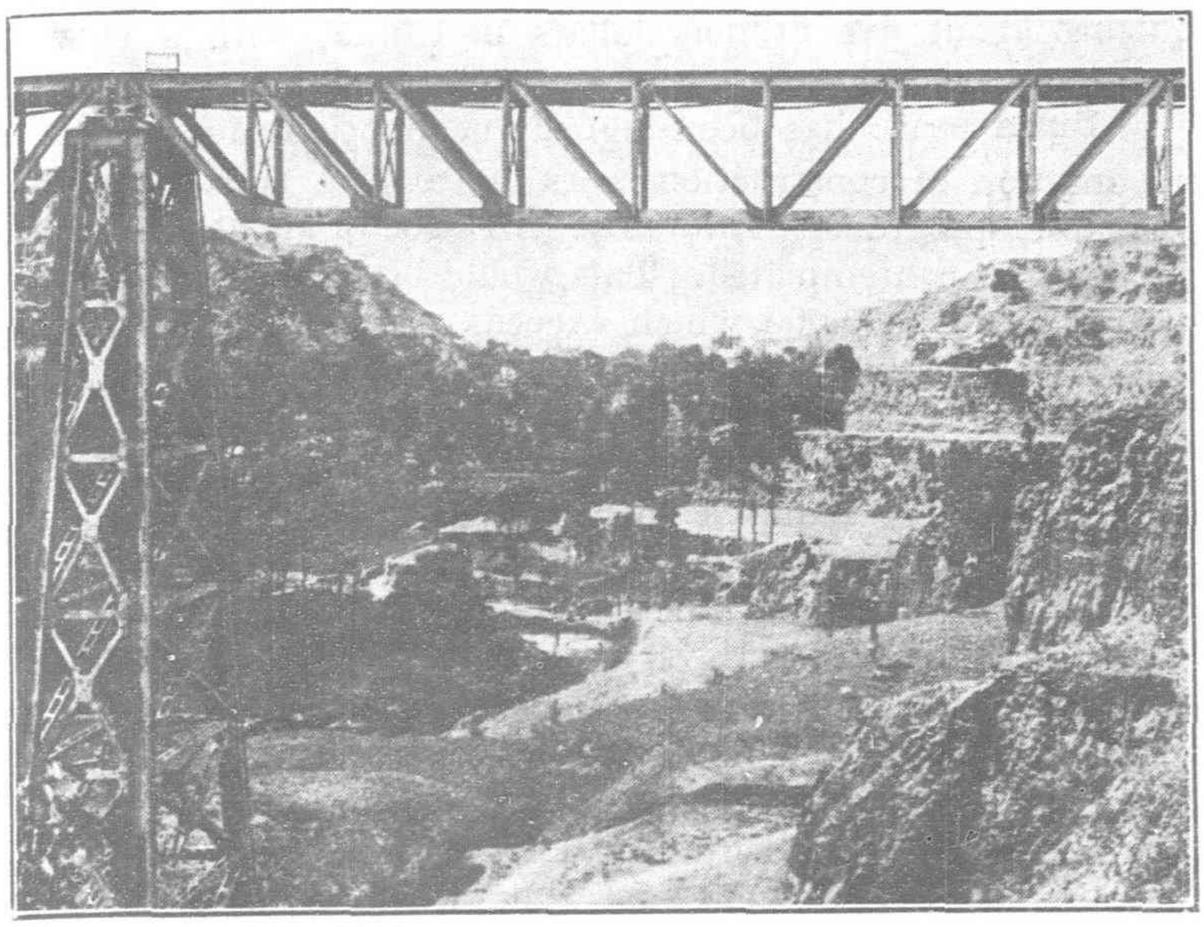
Owing to the war construction has proceeded very slowly on the Lunghai railway. Most of the work had been done previous to August, 1914. The first issue of bonds which took place in Brussels in March-April, 1913, and amounted to £4,000,000 nominal, has been used (1) to purchase the Lotung Railway, which was being built by a local company between Honanfu and Tungkwan (about 120 miles) of which approximately half is now completed, (2) to purchase the Tsingkiangpu railway of about 15 miles, another enterprise that had to be amalgamated, and (3) to construct the section between Kaifeng and Hsuchow, 150 miles. Including the Pienlo railway (115 miles) which was previously built under separate contract by the same Company, the completed sections of the Lunghai now have a total length of about 350 miles. Whereas the Chinese Government, which, according to the loan contract, guaranteed that the Lotung and Tsing-



SOME OF THE GROTTOES AT LUNGMEN. EACH ONE OF THOUSANDS OF GROTTOES ONCE CONTAINED IMAGES CARVED FROM THE ROCK. VANDALS HAVE STOLEN THOUSANDS OF THE STATUES AND SOLD THEM AS CURIOS

kiangpu railways would be merged into the Lunghai enterprise, exercised sufficient control over the Tsingkiangpu section to turn it over forthwith to the Lunghai administration, the case of the Lotung railway was much more difficult to handle. The Honan gentry, who were the shareholders of the company, were not easily persuaded to recognize the right of the Central Government to cancel railway concessions held by Chinese in the different provinces. The prestige of the Central Government was not very great just after the establishment of the Republic and it is said that the Belgian

Company, seeing that negotiations between the Government and the gentry made no headway, even proposed to drop them and to build an entirely new section parallel with the Lotung railway. It cannot be denied that the local Company had a good case and it was necessary for the late President Yuan Shih-kai, himself a Honanese, to use all his influence with his compatriots finally to arrange matters.



A MAGNIFICENT VISTA THROUGH A MODERN BRIDE SPANNING A LOESS RAVINE IN HONAN PROVINCE

As long as Yuan remained at the head of affairs none of those who were dissatisfied with the settlement of this question or were jealous of the influence acquired by his trusted assistants, dared to express their feelings, but after his death the part played by the Government in the liquidation of the different concerns which stood in the way of the unification of the railway system in China, was made the subject of criticism.

We need not dwell on this aspect of internal Chinese politics. What foreigners, who take an interest in the development of China, want to know is whether the capital invested in this country is safely and profitably invested. From this point of view the Lunghai enterprise promises to give entire satisfaction. The receipts of the first six months of the current year are $1,325,000, or, with Pienlo included, $2,195,000. The operation ratio being about 55 per cent. on an average, there is an ample surplus after deduction of the amount required for the service of both loans. The rolling stock of the Lunghai (350 miles) comprises 49 locomotives, 51 passenger cars, 28 luggage and mail vans, 405 freight cars, 15 horse cars, 145 ballast cars and 8 repair cars.

The line is of standard gauge, the rails weigh 42 kilograms per meter and are 12 meters long. Preference has been given to metallic sleepers over timber ones; they weigh 64 kilograms. All bridges have been designed for heavy trains (Russian type) so as to allow of the use of Mikado and Pacific type engines. The bulk of the freight cars are 40-ton cars, 13 meters long, with a small number of 20-ton cars. The locomotives are (1) for the passenger trains, ten wheels, of 1,600 h.p. capable of hauling 325 tons at 50 kilometers an hour, on 15 millimeter grades; (2) for the freight trains, consolidation engines of 1,600 h.p. hauling 600-ton trains at 15 kilometers an hour. These engines have tenders of 30 cubic meters capacity, weighing 56 tons, allowing of a run of 141 kilometers without refilling. The adoption of the heavy type of material has involved, of course, very high initial expense; but has the advantage of meeting all possible development of traffic and of insuring safety.

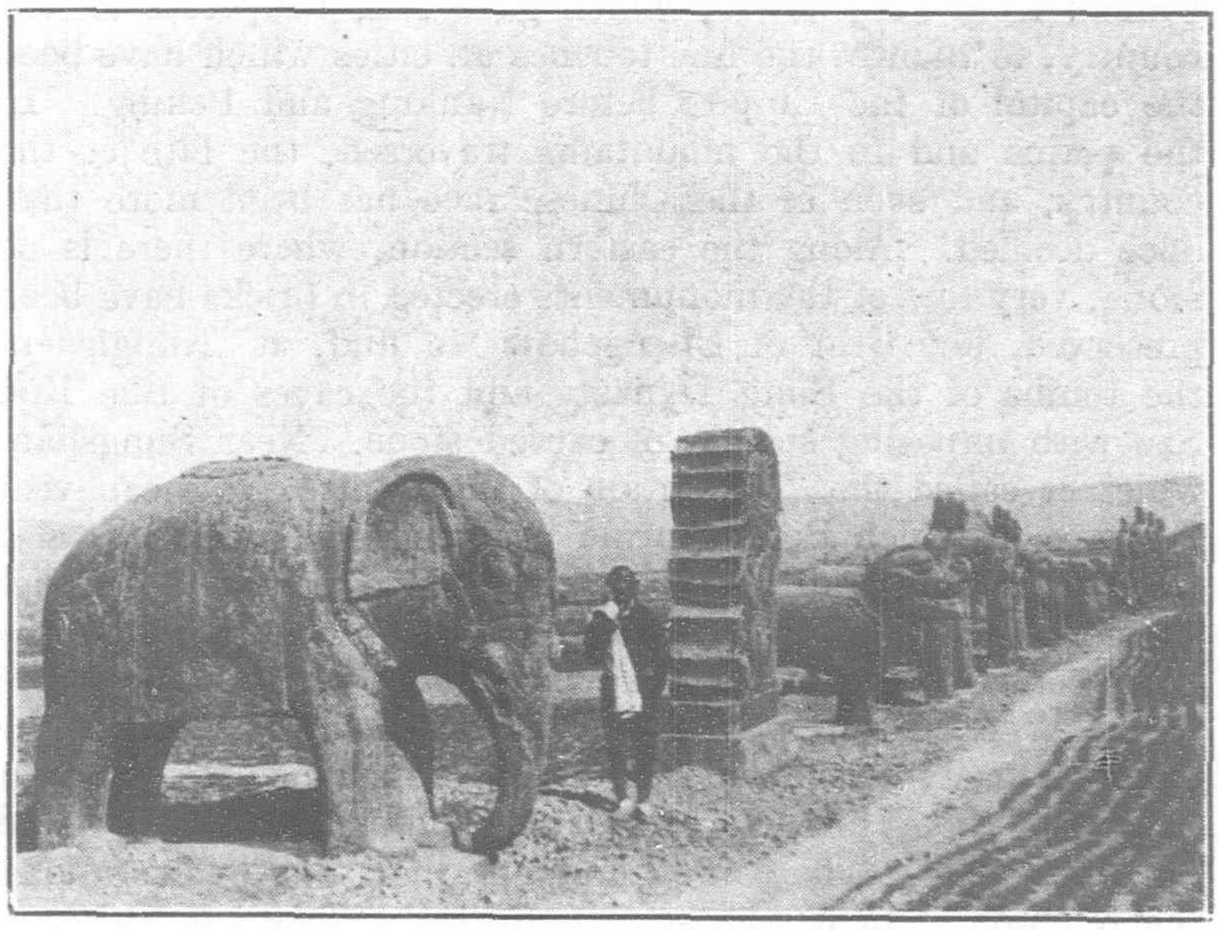
From the point of view of construction difficulties, the Lunghai railway, as projected, may be divided in three sections:

(1) The section between Chengchow and the sea, with a gradient below 6 millimeters per meter.
(2) The section between Chengchow and Fengsianfu, with a maximum gradient of 15 millimeters.
(3) The section between Fengsianfu and Lanchow with a maximum gradient of 25 millimeters.

On the first section there are few engineering difficulties; the country traversed is periodically flooded. The railway embankment runs at right angles to the streams coming down from the mountains of Shantung but ample provision has been made for bridges and culverts in order to prevent the embankment acting as a dam. Between Hsuchow and Kaifeng the railway follows for about twenty miles, the former bed of the Yellow River, then drops to a level about 25 to 30-ft. lower, to the south of this former bed, which acts as a protecting dyke. In the beginning of the nineteenth century the Yellow River reached the sea at a point south of its present mouth; in the year 1851 the river changed its course and it is quite improbable that it will ever flow again in the direction of Hsuchow.

The second section runs largely through loess formations, through which almost perpendicular cuttings can be made without any danger. The Loho river, an important tributary of the Yellow River, is crossed on a fine cantilever bridge. Over a distance of eleven miles, there are not less than eleven tunnels, varying between 50 and 475 meters in length. Between Honanfu and Kwangyingtang, the present terminus, the line skirts a torrential river and runs over embankments of from 30 to 40-ft. The cuttings here run through rock, where marlstone predominates, underlying coal seams cropping out at their bottom.

From Honanfu to Sianfu, the survey of the line is completed, and up to Tungkwan, at the bend of the Yellow River, the construction will be particularly difficult owing



PART OF THE AVENUE AT THE TOMBS OF THE SUNG EMPERORS, AT KUNGHSIEN, HONAN PROVINCE

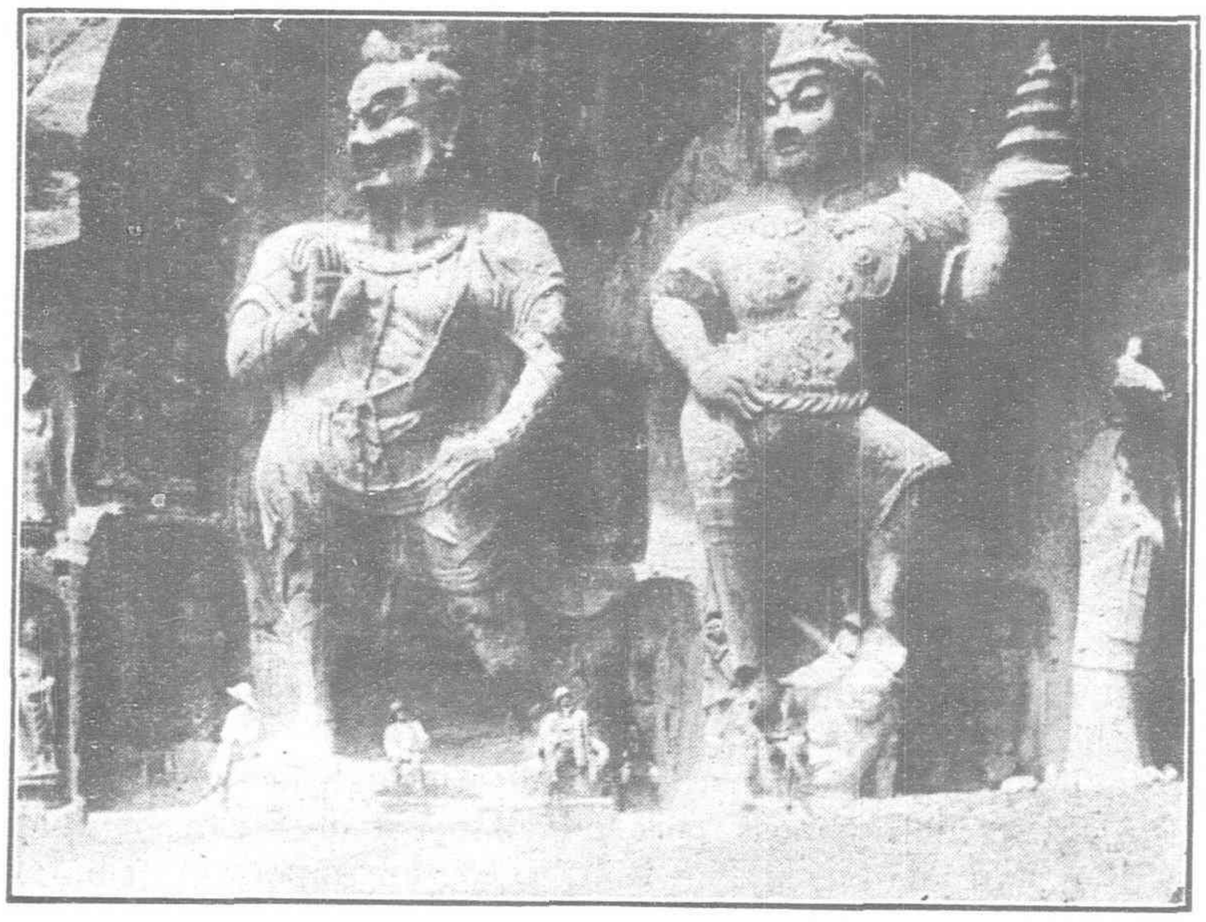
to the deep cuttings and the high embankments, and on account of the ravines and gorges which have to be bridged at a very great height; some of the bridge piers are 200-ft. high and the erection of the steel platforms of the bridges will present serious difficulties.

Much underground work will have to be done, and one of the tunnels near Lingnao, will have a length of two miles.

The third section, from Fengsiangfu to Lanchowfu is the most difficult one. A barometric survey and approximate determinations have been made between Sianfu and Lanchowfu in this section; steep gradients will be necessary, and

they will create working difficulties which can only be met by using articulated locomotives.

The greatest care has been taken to give to the line the highest possible capacity. The stations are located near the big centres, where the trade gathers. Between the stations,



HUGE STATUES AT LUNGMEN, HONAN PROVINCE. COMPARE THE SIZE WITH THE EUROPEANS AT THE BASE

numerous halts and crossings have been built, the sites having been selected after taking into consideration the difficulty of the line, and the speed and power of the locomotives, so as to get the maximum results that can be obtained with a single track system.

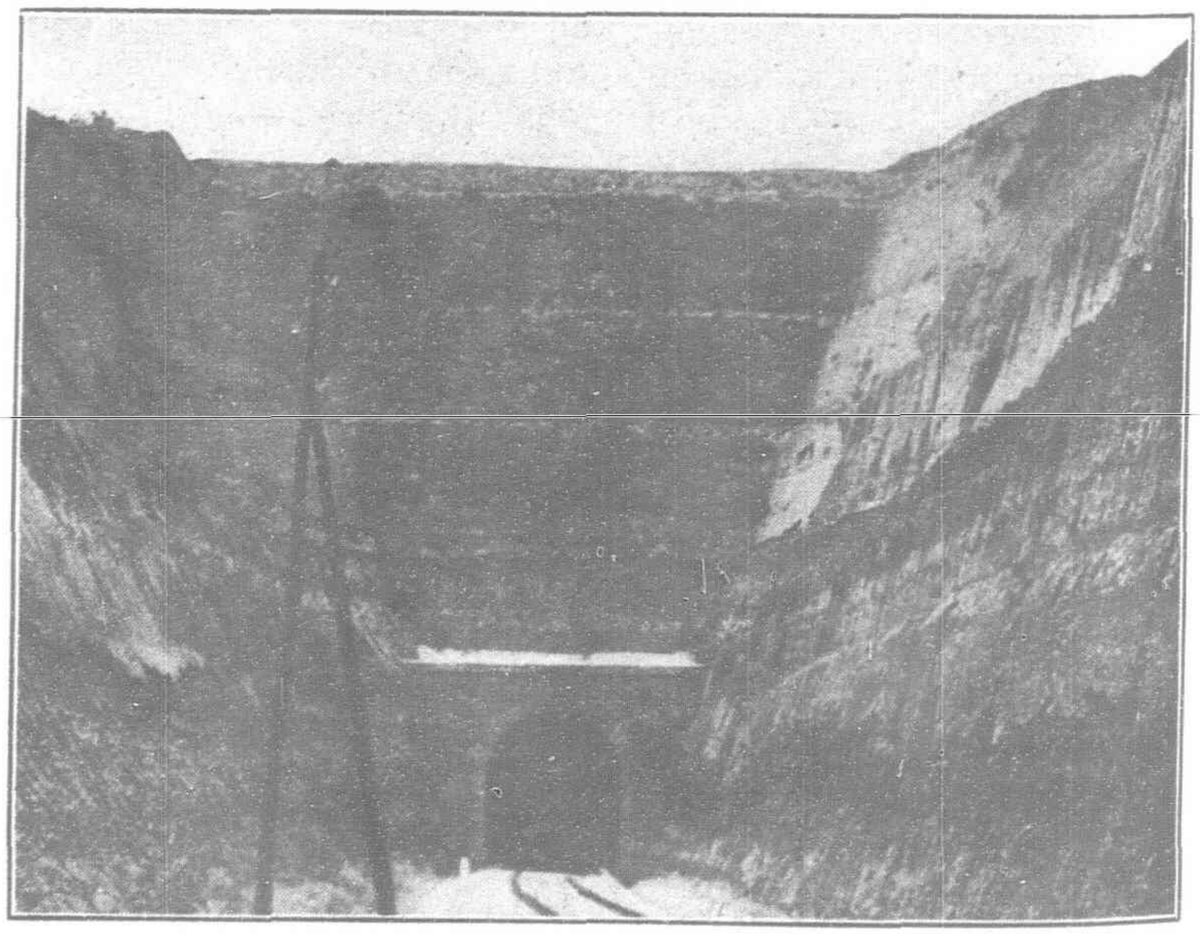
From the point of view of the scientist and of the tourist, the country traversed by the Lunghai railway is extremely interesting. Honan and Shensi Provinces are the cradle of China; from Hsuchowfu, which gave four Emperors to the country, to Sianfu, the line touches all cities which have been the capital of the Empire before Nanking and Peking. In the plains and in the mountains traversed, the fate of the country, and even of the Chinese race has been more than once decided. Along the eastern section, where there is no stone, very few of the monuments erected in bricks have been preserved, but west of Chengchow we find, at Kunghsien, the tombs of the Sung Dynasty and the caves of She Kou Sze with imposing statues of carved stone. Near Sungshan, which is called the "Mountain of the Centre," we can visit the cave in which Bodhidharma lived during nine years; also trees and pagodas dating from the Han period, and a series of monasteries, the most recent of which was built in the sixth century, one of them having been the Summer Palace of the Wei Emperors. Further west we meet a tomb of the Tang Dynasty with beautiful stone lions, and the ancient pagoda of the White Horse, where buddhism in China found its first refuge. There are numerous high tumuli containing the remains of men who were powerful and famous in these remote ages. Honanfu, itself badly preserved, still possesses the tomb of Kuanti and the celebrated caves of Lungmen, where giant statues hewn in the solid rock and thousands of smaller buddhas have been sitting in darkness and silence for centuries. Many "kutsi," or ancient monuments, are still waiting for identification by the archaeologist. No doubt they will come in growing numbers once the railway will insure more comfortable travelling, and when, next to the small Chinese inns, western hotels will provide better accommodation. In the meantime, the railway administration contemplates building rest-houses at suitable places.

During the war, construction work on the line was suspended. An issue of bonds to the amount of £6,000,000, which was to take place in Brussels and Paris in the autumn of 1914, could not go through. Many members of the staff were mobilized, and it was impossible to ship the supplies for which orders had already been placed in Belgium and France. From America, however, quite a lot of material was obtained, and the sections already built could be worked to advantage, as is shown by the figures of receipts given above.

The energetic Director of the Lunghai railway, Mr. Sze Sao-tseng, deserves great credit for having succeeded in raising about five million dollars in China, with a view to making good the stoppage of transfers from Europe.

Since peace has been signed, negotiations for an active resumption of construction work have been started and are said to be progressing favorably. An issue of about £8,000,000 of bonds is contemplated. This would bring the total amount issued to £12,000,000 which exceeds the nominal amount of the loan by £2,000,000. Yet, the cost of material and labor has so enormously increased and the price of silver has risen so high that it would not be surprising if about £30,000,000 altogether were required to complete the line. The high exchange rate is an adverse factor inasmuch as more gold is needed just at a time when the money supply available for investment in China is very limited; but as all receipts of the railway are *silver* receipts, the transfer of money at the present rate of exchange will only entail an actual loss for the Chinese Government in case the price of silver drops again, which is not certain. The question is: Can China suspend its development and thus waste millions of profit until the price of silver has reached a so-called normal and steady level? The situation, abnormal as it is in more than one respect, would certainly warrant the adoption of a systematic plan of development. The most profitable and most urgent undertakings should be taken in hand first, but so many divergent interests are involved in the work of westernizing China, so independent of each other are the financial groups who hold railway contracts, that concerted action is almost out of the question. The plan to form a new Consortium for Chinese business, may be looked upon as an attempt at co-operation and systematic effort, but it is feared by many that, although excellent in theory, it would be almost impossible in practice, on account of the difficulty of harmonizing the different foreign interests involved and of adopting the rational development of China as the guiding principle.

We understand that the financing of the Lunghai Railway is being considered quite independently of the new Consortium, although it is not impossible that the Lunghai Syndicate, which is a Belgo-French concern, will be reorganized on a new basis, more broadly international.



THE FORMATION OF THE LOESS IS HERE PLAINLY OBSERVABLE. IT PRESENTS A FACE LIKE PLASTER

Why Peace is Slow in Coming to China

An Analysis showing that Racial and Temperamental Differences Keep the North and South at Loggerheads

Observers in China are watching with considerable interest the attempt which is now being made to secure peace between the factions representing the North and the South. The peace conference called sometime ago and presided over by Mr. Chu Chi-chen, representing the North, and Mr. Tang Shao-yi, representing the South, failed because there was no give and take. The conference which is now being attempted under different chief representatives threatens to be abortive because of the refusal of the South to deal with Wang I-tang, who has been appointed to represent the North. Why the North and the South fail in arriving at a mutually satisfactory basis for unity and strength with some speed and permamency puzzles residents of China as well as people abroad, but if the psychology and history of the two groups are studied maybe understanding will come. Observers have been unable to grasp why a people who have the reputation of being homogeneous in blood, education, customs and language, could not get together for their own good and abandon their inter-provincial jealousy and squabbling. In the disputes and revolutions that have been proceeding for the past seven or eight years they saw nothing more significant than the modernism of the South, which has been longer and more closely in touch with the Occident, fighting against the conservatism of the still unleavened North. They could not see why the same ideas could not permeate both great divisions of the Chinese nation with equal speed and facility, since their institutions were the same, and bring about a common purpose in national matters. Explanation lies deeper than a difference in newly acquired ideas and ideals. There is a racial and temperamental difference between the North of China and the South which, like most other things in this nation of the past, must be traced to remote antiquity and cannot be accounted for by the events of this generation. Modernism, democracy, revolution, social and political, are simply new grounds for the pursuit of an ancient feud and if modernism can unite the North and the South in common cause, as it now promises to do, it will have achieved more than all the emperors and sages since Confucius have been able to accomplish.

China is not homogeneous in race and it is particularly divided in temperament. Many tribes have gone into the making of the Chinese people, geographical and climatic conditions have served to breed distinctions; and frequent invasions, with the consequent absorption of invaders, have modified physical types in various parts of the country. In all divisions of the Chinese people there is the blood of the primordial Chinese and all the 7 or 8 languages and countless dialects are shaped to a Chinese mould, but the North differs as much from the South in character and in the workings of the public mind as Norway differs from Spain, or as Anglo-Saxon America differs from Latin America. These are faulty analogies, but they serve to indicate the degree of difference. The Chinese are a studious people and the constant contemplation of the historic causes of their racial division serves as a reminder and a constant spur to further differences and distinctions.

Roughly the line of division is the great Yangtze River, and the Yangtze valley has been for ages the meeting ground and the battle ground of the warring elements. It is the cock-pit of China. There the half-Tartar Chinese of the North meet and battle with the half-aborigine Chinese of the South. The great battles of the revolutions at Hankow and Nanking were only little echoes of the much greater battles of the Chow, Han, Sung, Yuan, Ming, and Manchu dynasties on the same sites. Trust the Chinese, with their penchant for harping back to the ancients, with their fingers in musty volumes, to remind each other of all this and keep the feud alive.

In the North they say of a Cantonese, without malice or satire, but quite naturally, "Why, he is not Chinese, he's a Cantonese." And in very recent years we had the South coining and hurling at the Northerners the epithet "pig-tailed foreigners." They differ in origin, as they know, their landscapes are different, their languages are so different that they cannot converse, they cannot eat each other's food, nor talk upon topics of common interest. All acknowledge, and are proud to acknowledge, the name Chinese—Men of the Middle Kingdom—but the natives of a dozen provinces dogmatically claim to be the "real Chinese," the purest scions of the race that fathered them all, and regard outsiders with a contempt which varies in degree with relative geographical position. Foreigners resident in China are "salted by the eternal sea", and take up cudgels and arguments for the districts in which they settle, together with other Chinese thoughts and prejudices. If they write books on the customs and character of the Chinese, they portray the people about them, and, blind to the vast differences which exist, they say dogmatically, "the Chinese eat this", or "the Chinese think, wear, or say that", predicating to the whole nation their observations upon the community in which they live. If they write of the Chinese of another province they give them the speech and scenic setting of their neighbors. There are scores of books on China which contain portraits as absurd as the likeness of a Viking dallying in orange groves, strumming a guitar, and chanting serenades to a Moorish balcony would be in the Occident. Most of the early books, now authoritative, which are read in the West were written by residents of South China and apply to the Southern Chinese and no others. The traveller who has absorbed much of this literature and then comes into the heart of North China is astonished to find how he was misled in his impressions of the Chinese people.

Democracy has a big task before it, if it is to unite the North and the South; but if China is to hold a place in the family of nations the North and South must be bound together, for neither can stand alone. Their virtues complement each other. What the South lacks the North can furnish and what the North lacks the South has in abundance. This is as true of resources as of temperamental qualities.

The South is fiery, impetuous and brilliant. Any new idea finds a hold there and every reformer or purposeless enthusiast finds a following. It breeds prompt action and radical changes. It is quick to see advantages in new things and adopt them. But it also breeds the long-haired, wild-eyed type, and the leaders of the Southern masses are as apt to change their plans and policy in a lapse of thought as the Bandarlog statesmen of Kipling's "Jungle Book." It is unstable and erratic.

The North is slow, stolid and strong. Its conservatism is a granite barrier to change whether for good or ill, and its

sluggish mind works to a conclusion by painful and tortuous paths. It does no skipping or jumping, but makes every movement with caution and a reserved judgment. It wants time to think about everything and it is timid in intellectual matters. But the North is strong and it has tradition with it. If you try to sell a car-load of machinery to a Southerner he knows ten minutes after you have described it whether he wants it or not, and if he takes it he will probably pay for it. If you have a paper of pins to sell a Northerner, he will be hours making up his mind, weighing the pros and cons, but if he takes it he will certainly pay for it. China is a country in which the weighty and unwieldy virtues of honesty and strength dominate; therefore the North has ruled the South since time began.

In the course of an authentic history of more than 3,000 years and a long prehistoric period a united China was ruled from a Southern capital just 53 years. That was under the early Ming emperors, the founder of which dynasty was a Northern man, and the capital of which was Nanking, which is rather Central than Southern. The North has always lorded it over the South, and the South, intellectually keener, more energetic and resourceful, contributing more than its share of statesmen, soldiers, artists and literateurs, has never been able to understand why it should. But the North had strength, and still has strength, the heavy crushing strength of the ox. The North rules the South and retards its growth, but the South frets and goads the North; so they have always worried along together, antagonistic but complementary, mutually beneficial through their antagonism.

Wherever the "real Chinese" are now they were discovered by their historians in the North, three, or four, or five thousand years ago, as you please. The nation took form in the provinces of Shensi and Honan, in the Yellow River valley, then wooded, rich in minerals and fertile. North of them were the fathers of all the Tartars, the Huns, Turks, Mongols and Manchus. South of them were the fathers of all the aboriginal tribesmen, the Miao-tze, the Lo-Lo, the Shans and a hundred other nondescripts, perhaps the Tibetans, Annamites and Tongkinese. In a fertile land the Chinese prospered, multiplied and began to look for new territories. However they moved they had to fight their neighbors, and even in those days they seemed to conquer as much by absorption as by arms. Whatever race came among the Chinese became Chinese; wherever the Chinese went, the people of that land also became Chinese. No race on earth can take in so much alien blood and maintain its marked characteristics. The Chinese have absorbed thousands of Arabs and Turks, whole colonies of Persians and Jews, literally millions of Tartars, and in the South millions again of aboriginal tribesmen. Yet if you take a Chinese from the extreme Northwest whom you know to be at least half Turk by ancestry, and a Chinese from the extreme Southwest whom you know to be nearly all aborigine, and place them side by side, you might persuade a superficial observer that they were brothers. The Chinese have almost, but not quite, absorbed their former neighbors and enemies. There is just enough of the Tartar left in the North and of the aborigine in the South to raise a barrier between the two great divisions and rouse their jealousies and animosities.

During their early, semi-fabulous period the original Chinese, whoever they were, were busy expanding their territory in North China, enslaving and absorbing the Min, or "Dark People," whom they found on the land. It was not until they had a fully shaped civilization, with the written language, the architectural and artistic models which are still their standards, the bulk of their best literature and their most sacred traditions, that they paid any attention to the China which now lies South of the Yangtze River, the China which the Occident knows best. Two hundred years before the opening of the Christian era South China had no civilization but was peopled by the savage aborigines, head hunters who ran nearly naked and used only the most primitive tools and weapons. The tribes of Tung and Li in Canton, of Yao in Kueichow, of Po in Hunan, of Shengfan in Szechuan, of Lo-Lo and Pai-i in Yunnan, savage hillmen who still dodge civilization, are the last remnants of the primitive peoples who by education, conquest and a mixture of blood have become the Southern Chinese in the course of 2,000 years. Their languages have modified the imported Chinese until no ear would recognize in the dialects of Fukien and Canton the original Chinese of the North, and their physical characteristics have been stamped upon their mixed descendants. The Northern men call themselves the "Sons of Han," but as the Southern tribes were still resisting conquest in the Han epoch, they have chosen a later dynasty, the T'ang (618-905 A.D.) to father them, and they call themselves the "Sons of T'ang."

During these two thousand years that have been devoted to conquering and assimilating aborigines in the South, the North was itself conquered and overrun time after time by the burly savages of the Mongol steppes. Down to the time of the building of the Great Wall the Huns of the North were kept out of bounds, but, as though these nomads looked upon the long barrier as an invitation to do their worst, they began to find their way into North China 2.000 years ago, and one tribe of them after another swept the country down to the Yangtze, settled upon it, and became Chinese. They came so thick and fast that the Chinese scarcely ever had time to run their own country, but they became Chinese so readily and, by virtue of courage and physique, were such stalwart citizens and kindred, that the Chinese carried on no feud with them, but adopted them as they rolled in irresistibly.

Even as conquerors, from the Christian Era to the middle of the 4th Century, the Northern Chinese had a fashion of picking up whole tribes and armies of defeated barbarians on their Northern borders and moving them inland to settle their provinces. Then Shansi was nearly all Hun, Kansu nearly all Tibetan and Chihli nearly Tunguz, or Manchu. Then a Manchu race, the Toba, came in as conquerors, in 445 A.D., and ruled the heterogeneous whole. In a hundred years they were lost, language and all, and had become Chinese.

Thereafter came numerous immigrations and mixings in the outlying provinces, and finally another sweeping conquest by the Khitans from the Northeast in 906. These turned Chinese, and then in the 11th Century when the Khitans were well settled in their civilization and were forgetting their origin, came the Nuchen, the Golden Tartars, to make the country their own and be lost in it. On their heels were the Mongols and then after the Ming dynasty, which lasted 250 years and was as purely Chinese as a Chinese dynasty could be after taking up so much Tartar, the Manchus came in and stayed 250 years, adding their little to the great nomad admixture. Anyone who reads Chinese history from end to end wonders how much Chinese there really is in the Tartars of the North and how much in the aborigines of the South, not how much Man-tze and Tartar there are in the Chinese. Eliminating the Chinese from the North and South, we have the heavy-footed, flat-faced shepherd of the North facing the alert, agile, head-hunter of the South, and a contemplation of such a mental picture will give all the clues to the present political situation in China.

If Confucius were to return to China in this generation he would not understand a word of his own writings as pronounced in any dialect. Nor does the Confucian scholar of Canton understand the Confucian scholar of Peking unless he has studied Pekingese as an Englishman studies French.

The South is hot, swampy country without roads, intersected by countless streams, lakes and canals and cobwebbed with narrow footpaths. The distinguished travel by sedan-chair or boat, the rest, the great masses of the people, walk. Burden-bearers are burden bearers by heredity. Boatmen are a class, a hereditary caste. In the South, over populated, horribly poor, soaked with fever, and smothered with the stench of drying fish and accumulated filth of generations, there is a poor class, which rises up as an open mouthed, hungry-eyed contradiction of the Chinese theory of democracy and equal opportunity for all.

The North is cooler, cleaner and more sane. There is less water, but there are broad roads, horses, donkeys, carts and camels. There is less crowding. populations are smaller, and though there is no more wealth, it is more evenly distributed. A great part of the country is high, dry, and wholesome, and in the rambling big houses and wide streets the sun and wind perform the offices of a sanitary committee. The European feels more at home in the North, he finds food to his taste, and he is not forever holding in his garments to escape filth and contagion.

The people too are more vigorous physically and more independent in a stolid, stubborn, Mongol way. Good natured and healthy they take life easily and eat good food. The South lives on rice, the North on wheat. The South has no flesh but pig, chicken, and fish, unless we include the rats, cats, and dogs which are devoured by some in such beehive slum cities as Canton and Kweilin. In the North the fare is varied with mutton and beef, and vermin eating is unknown.

The Northerners are tall, big boned, hard visaged and strong. The Southerners are little, flat chested, spindle-legged and wiry.

Now these contrasts in origin, mind, conditions of living and physique, are all barriers to mutual sympathy in China and the media of mutual ridicule and vituperation.

The Revolution of 1911 was largely a war between the North and the South, with the overthrow of the Manchus as an excuse, and the wide dissemination of modern ideals and Western thought in the South as the immediate incentive. Republicanism in China is a Southern concept and a Northern concession. The North alone would not have thought of it in another half century. The South alone would have had it running full blast by this time, would have tried half-a-dozen conventional forms of it and would have invented a few new ones. The North, as it happened, conceded nothing but the name and the form. The conventional clinging to ancient things by the late Yuan Shih-kai and his Northern supporters for the first five years of the Republic irked the South beyond all endurance or control, and there has been conflict ever since. To the North the Southerners are indecently iconoclastic and hasty in change, while the South sees nothing but degenerate apathy and indifference to public weal in the North's attitude. In December, 1915, Yuan Shih-kai, believing that he had the North with him, took the pleasant, conservative step of announcing that he was about to become Emperor of China. This opened the old wounds, the South took up the challenge and once again the Yangtze valley, the great cockpit of China, was tramped and pillaged by armies. But in this instance Yuan had misjudged his own North. It sleeps soundly but it thinks even in its dreams; and during the five years of nominal Republicanism it had been very deliberately ruminating upon the little democratic fodder that was given it, and had decided that it was good. To the amazement of Yuan and his following, and to the delight of the South, the bovine North very deliberately rose up and gave voice to a preference for the Southern idea. Yuan died and the whole nation sighed its relief and pledged itself to peace and harmony. But the harmony did not last long. The military satraps who believed they knew more than Yuan Shih-kai, and who believed they were more capable of carving out their destinies according to their own plans and specifications, attempted with their military forces to secure control of the administration of the Republic, threw out the Parliament which Yuan previously dissolved, but which was recalled after Yuan's death, and again stirred the South to armed revolt. Believing that he could secure permanent peace by establishing the Manchus once more on the Throne the picturesque Chang Hsun one fine morning in 1917 restored the Baby Emperor, and to his consternation discovered the Northern militarists once again champions of Republican ideas. Chang Hsun's pigtailed warriors were quickly run out of the Capital, the Baby Emperor quietly went back to his studies, and the Militarists have ever since been quarrelling with the South to determine whether or not Republicanism really connotes a constitutional form of government.

There has been one abortive peace conference, and now a further attempt is being made. If harmony can be secured then the task that democracy has before it is to make harmony between the North and South a permanent thing. There is no virtue in prophecy in this country, so very few sane people indulge in it, but it is certain that if a democracy cannot heal old wounds here nothing can. The North might tolerate another emperor or king, though it is doubtful; but the South certainly would not. If China were divided into two entities the South alone would try weird and wonderful governmental experiments, and hang itself like the dog with too much rope; while the North would lapse into decadence and atavism and dream itself into extinction. The power of the North needs the biting spur of the South and the South needs the restraining sanity of the North.

Every honest European and every sane Chinese is busy praying for a harmonized China, with a rational democratic government, in which both the fire and the intellect of the South, and the strength of the North will be fairly represented. It would mean the salvation of the country, the pledge of its safe and reasonably rapid progress. There has not been so excellent an opportunity for a fusion of Northern and Southern interests and the building of a real Chinese nation since the Ming dynasty, but there has never been a more delicate situation, a situation requiring greater diplomatic caution, nor a moment in Chinese history so pregnant with possible catastrophe and grief, as the present.

In China where tea was invented and where etiquette is the first essential, there are formalities connected with the pouring and drinking of tea, iron clad and inviolable, as might be expected. A tea pot placed on the table, must be so set that the spout points at no member of the assembled company. To turn the spout towards a guest is a direct insult. If one wishes to be very polite, he must not do as the Russians do and fill a cup to over-flowing, but must pour a very little. The less tea there is in a cup offered to a guest the greater the honor. Two teapots must never be so placed that the spouts point at each other. This is bad luck.

Tea figures at all official receptions and conclaves, and if the host wishes to do his guest great honor he takes the cup from the servant who brings in the beverage and places it before his guest, using both hands. Official tea, however, is not to be drunk until the moment of departure. On the occasion of an official audience a sip from the cup indicates to either host or guest that the interview is at an end, and the servants, who are watching from convenient knot holes and cracks, immediately prepare the visitor's sedan-chair or carriage for his departure. Foreigners, ignorant of this formula, frequently bring their visits to an abrupt end by quenching their thirst from the cup that is placed before them, in which event the host rises and hastens to usher his guest to the door, believing that the business of his call is at an end.

What the Chinese Coolie Thinks of the European

There is no country in the world which yields so many false impressions to superficial observation as China. The tourist of the treaty ports, or the casual visitor to Peking, carries away concepts of Chinese social life, public and private morals, and of class distinctions, which are almost invariably inaccurate and unjust, and are all too often the material for wise dissertations in public and of handsomely bound books, illustrated with snapshots of pagodas, junks, rickshas, instruments of torture and defunct girl babies.

One of the strongest impressions which these persons gather, who come to the East with a kodak and a time-limited ticket is that the is a sharply defined coolie class in China, hopelessly and everlastingly coolie, of lower intelligence and lower breed than the governing classes, a race of hereditary serfs. Naturally this impression carries weight in the Occident and Westerners are almost universally convinced that China is a land of classes and castes and of closely drawn social distinctions; yet nothing could be more untrue or unjust. As a matter of fact the word 'coolie' is not Chinese and, outside the narrow coast belt of foreign influence, there is no Chinese word which describes such a class. The poor are "those who eat bitterness," or "those deserving pity," laborers are described as laborers and have their dignity, farmers rank high in the social scale, and beggars are either impostors or unfortunates on their individual merits. But no term serves to describe what the European calls the 'coolie class,' and in Chinese thought it is non-existent. For in China no hereditary class survived the wreck of the feudal system in the third century, B.C., but the members of the Imperial family and the descendants of Confucius.

There is no country in which wealth is so much sought after and so carefully handled as China and yet none in which money plays so small a part in determining a man's social status. There is no country again in which ancestors are so much reverenced as in China and yet none in which man's forefathers and their achievements have so little influence upon popular esteem. In each generation the individual is judged on his merits, and, apart from moral excellence, merit in China means scholarship.

The highest title in the land is no higher than that of "teacher." The son of the barrow-coolie who makes himself a master of Chinese erudition may converse on equal terms with ministers of state and dine with the lordly, though his gown is faded and greasy and his poverty forces him to tell stories for a livelihood.

Since the Chinese recognize in every man the right to the fruit of his labor and intelligence they also recognize in every man the potentiality of great things, and, however low a man is in his fortunes he is still a man and is entitled to consideration and courtesy. Many a great statesman in China has a more intimate and sympathetic knowledge of his cartman's life and affairs than the butler of a European household has of the coachman's life and aspirations. The Chinese carter knows that the statesman is a scholar who holds a high office because he has earned it, so he treats him with the respect which his attainments deserve; but the statesman-scholar never forgets that the carter is a man and is entitled to human consideration.

The foreign visitor to Chinese official establishments will be amazed to hear the "Great Man," discussing politics with his servants, and perhaps carrying on a waggish conversation with the European's own humble retainer. He marvels at the freedom with which his servant responds to the advances of the august person, and the grace and courtesy which he displays in his speech and actions. He wonders vaguely why these elegant social gifts have never been aired in his presence and why these exquisite niceties of address have never been lavished upon him. Still more surprising is the courtesy shown to one member of the "coolie class" by another. The foreigner goes abroad and buys a load of bricks. When the bricks come he may observe from some hiding place, how the lowly one who scrubs his floors and the grimy one who carries in the bricks address each other as "venerable" persons, ask politely all manner of solicitous questions, settle down to a formal cup of tea, if both have time, and bow at parting, murmuring pleasantries the while.

It is scarcely an exaggeration to say that there is more formality shown at a formal meeting of ricksha coolies than in a council of European ambassadors. Every coolie, whether or not he can read and write, knows the traditions of right conduct and the benevolent and democratic injunctions of the Confucian classics. The poorest laborer from the meanest household knows all the laws of etiquette, knows how he should address every member of society, and the precise form of courtesy with which he should be treated by every man, from the governor of his province down to his fellow laborers. He knows how to conduct himself in any gathering in which he may find himself, and is as much at ease with his intellectual superiors as with his equals or inferiors. He is seldom embarrassed, seldom awkward, and never boorish in his relations with Chinese.

When the Chinese comes in contact with Europeans, all that is rigidly circumscribed by tradition in Chinese life is blasted by the incomprehensible conduct of the fair-haired stranger. He commits horrible *faux pas* with a genial smile and an easy mind. He deals with mandarins as no mandarin would deal with a coolie. He deals with coolies as though they were machine made automatons, and goes about his own mysterious affairs in complacent ignorance of the bewilderment and occasional resentment which his disregard of all "law and ceremony" causes.

It is not very flattering, but it is certainly true that whatever respect is shown a foreigner in the Orient is a tribute to his generosity or his heavy hand, until he has acquired such an intimate knowledge of the Chinese language and the Chinese mind that he is no longer a foreigner. The coolie has much less respect for the "man from the ocean" than the Mandarin has because he has less appreciation of foreign achievements and foreign culture. He judges us by our appearances and our conduct, and in the light of Chinese tradition and Chinese standards we are ignorant, brutal barbarians, inflicted for some strange reason upon the land and tolerable because we are strong and incidentally rich. The foreigner who has learned a little Chinese addresses his dignified *major domo* as "you," without any polite modifications of the raw pronoun, and the Chinese addresses the foreigner as "you," because he thinks him too much a boor to understand a more polite expression, though he would probably start a conversation with the cook with "you, my elder brother," or "you, the venerable one." These petty courtesies, with which the average Westerner will not be bothered even when he knows them, are essentials of Chinese intercourse, and the man who ignores them commands no more respect than if he were to run about naked and paint his skin.

In the treaty ports, especially in Shanghai, where generations of Chinese have come in contact with generations of men from across the sea, there is better understanding and more appreciation of the outsider's merits apart from his bad manners. These same bad manners have even proved contagious, and the countryman who comes to Shanghai is horrified to hear seeming gentlemen address each other with all the crudeness of foreign savages. But the traveller in communities which have not come under European influence, may have the doubtful satisfaction of knowing that, unless he conforms to the traditions of the land, the miserable persons whom he lightly classes as coolies, consider themselves, and are considered by all, his social superior. The coolie is a "man of Han", who may become, or at any rate father, a prime minister, but the foreigner is a barbarian and for him there is no hope—he is beyond the pale.

Is China Worth Saving?

It is not difficult for caustic critics to prove on the face of China's official behavior for a generation past that the upper classes are not sufficiently devoted to the interests of their country nor the people sufficiently patriotic to warrant outsiders, Occidentals especially, in championing the cause of either the Chinese nation or the Chinese individual.

During China's seven years of burlesque republicanism, unhappily mostly devoted to interprovincial bickerings which were not sufficiently serious to be described as warfare, the country has fallen out of favour with her best friends through a hundred errors, and it has therefore been the opinion of statesmen in Europe and of tourists and travellers in the Orient that China is neither worth fighting for nor worth saving.

Just as the histories which we read of nations are largely a record of royal personalities and their careers, so the news which is cabled over-seas from China to the Occident and from the Occident to China has largely to do with governments. This is not always fair to the peoples concerned because governments are not always representative.

China is in many respects extremely democratic. One does not have to be an aristocrat by birth to become a member of the official caste. Many of the highest officials who have come into prominence in China in recent years and have enjoyed the state of princes, have been of exceedingly humble origin, and this has always been true. But once an official, the Chinese can, if he likes, cut himself off from the common people by a system of ritual and formality unrivaled in any other country, and the line of demarcation between the governing and the governed classes is apparent to the most casual observer. This is chiefly because there has never existed in China any efficient machinery for bringing the two classes into cooperative relations. Few Chinese officials ever pretended to represent the people or to govern them. In the past the official was responsible to the Emperor and represented him; recently he has been responsible to no one but the man who can actually prove himself his superior and pay for the distinction. These same ideas have been schooled into the people, and because they do not conceive it their interest to understand governmental affairs nor to control them, they are indifferent and continue to trust in the judgment of the official classes, even while being fully aware of their shortcomings, and to abide by their decisions until a shortage of the common necessities of life convinces them that something has gone wrong and that they must rectify it to preserve life and property.

Intelligent public opinion does not exist in China; without public opinion or without a reigning dynasty there can be no control over governmental institutions other than that which the governors choose to impose upon themselves, and without such control it is scarcely to be expected in any quarter of the earth that an official class will work in the interests of the indifferent masses.

It is not easy to build up the machinery of democratic government in a day, especially in a country of China's area, without adequate school facilities, adequate communications, and an adequate system of publicity. None of these China has. One cannot expect public opinion to work constructively in a country in which millions never hear of events which bear directly upon national interests and in which newspapers reach less than a thousandth part of the population. China has an area of four hundred million square miles with about 6,000 miles of railway and only a few hundred miles of roads which automobiles can negotiate. It takes five months to travel across China from East to West, and in outlying provinces one finds that the common people become aware of a Chinese presidential election about two years after the event. In such a country it is unreasonable to expect that the people will organize a perfectly workable democracy in a few years, as unreasonable as it is to expect a class of officials responsible to no one and almost as ignorant of modern institutions as the proletariat, to govern with perfect honesty and justice. The greatest injustice one can do the Chinese people is to judge them by their so-called government and its acts without first acquiring a knowledge of the tremendously difficult positions in which both the governors and the governed find themselves when they try to adapt their tradition-bound practices to anything so ultra-modern as republicanism. If it is to the practical advantage of the bigger and more powerful nations which pass judgment upon the weaker and lesser ones that China should remain united and independent it is only fair that judgment upon China be suspended for a considerable period. On the grounds of justice and fair play this is China's strongest plea for consideration and for assistance, when necessary, in the maintenance of her independence while her new institutions are passing through a most difficult period of gestation.

Apart from all sentimental considerations however, for the benefit of those who are interested in more practical matters, it is necessary to prove that China is worth more commercially and financially to the Occident as an independent state than as a subject state of any one nation, or as a group of colonies under various European administrations.

The tendency of the European powers interested in China a generation ago was towards the division of China, each power jealously striving after the largest "slice of the melon" as the Chinese say. China adroitly saved herself while this policy was in vogue by playing one power against the other, keeping them all at loggerheads and yielding to nothing but a display of force. Evasion and obstinacy were her only weapons, but they discouraged Europe long enough to bring about a revolution in European policy *vis-a-vis* China, and with the partial change of heart which the war has brought about in all European centres of diplomacy, the danger of a division of China has practically ceased to exist.

There was a time when the Manchu Dynasty in China was jealous of foreign influence, partly through a far-seeing fear of an enlightened Chinese proletariat and partly through fear of foreign aggression and encroachment, and the Dynasty took pains to transmit its prejudices to the people. Since the Occident has ceased to look upon China as something to despoil and has adopted the more intelligent policy of trying to help China develop so that her resources may be available to legitimate commerce, the fear of aggression has largely disappeared excepting where the Japanese still persist in methods learned a generation ago from the master adventurers of the west. And now that the Dynasty is gone, the Chinese people have nothing to fear and everything to gain from instruction and help in modernizing their country. Instead of being hermetically sealed against Occidental influence, China is now, by the sincere desire of every intelligent Chinese, as wide open to Western trade, Western educational influences, and straightforward Western diplomacy as any country on earth, except where and when Japan raises barriers.

A free and independent China, fairly and honestly assisted, with better communications, better educational facilities, and improved industrial methods, would greatly enrich the world and be a powerful factor in maintaining world peace, and because of this foreign powers should bend every effort to put her on her feet financially and otherwise and see to it that she is given the chance to develop as an independent nation.

Courageous Chinese Push Commerce in the Face of Appalling Odds to a Record

Brigands and Civil War Fail to Deter the Resourceful and Patient Merchant

THIS Article has been compiled with two objects. One is to draw attention to the record trade which was done in China last year under extremely adverse conditions, and the other and chief one to show the tremendous disabilities which have to be faced by the Chinese merchants and people in carrying on that trade.

Our hope is that the nations interested in this great commercial field will devote some attention to conditions in China and by practical assistance help the people of China to better government and to reforms in all directions calculated to ameliorate the dire conditions under which they live.

About the middle of October the Chinese People's Welfare Society issued a circular urging their countrymen to unite, and among other things said :

> *" For several consecutive years, we merchants have already suffered hardships too terrible to mention. All the best-planned schemes of industrial enterprises have to be postponed, as no one will dare to risk his money during the time of political turmoil. Thus the general welfare of the people in China has suffered too. What damages and losses established business and industry have suffered must have been enormous also. Since the war in Europe concluded, all the countries have been exerting their utmost effort in the development of their industries. China alone, owing to her own unrest, lags behind, for her merchants feel a lack of security very acutely. What a pity !*
>
> *"Therefore, this Society, on behalf of our Chinese merchants, ventures to inform our whole country as well as the whole world that WHAT WE MERCHANTS DESIRE AND CARE FOR IS SPEEDY REUNION IN THIS COUNTRY, for really there is scarcely any choice between them—one party is as bad and selfish as another. In the struggle and jealousy among these parties we small people are not at all interested. We regard their conflicts as quarrels between gossiping village dames."*

The merchants rightly ask *" Is our Chinese nation forever doomed to political strife and never to enjoy any moment of peace and rest ? Or will the North and South forever struggle on blindly, perpetually crushing out all hopes of regaining unity ? "*

Here is a cry from the hearts of men. Will it go unheeded ?

How seriously the unsettled state of affairs in China has interfered with the legitimate development of commerce is emphasised once again in the annual (1918) reports of the various Treaty Ports which are now being issued by the Chinese Maritime Customs service. If these reports are read at all by Chinese high military officials they surely must see that the time has come when a period must be put to the criminal conditions which exist in their country. True, an alleged effort was made recently to terminate the differences between the North and the South by a so-called "peace conference", and, true again, another attempt is now being made ostensibly to get the factions together, though it is to be questioned whether the steps being taken are wise in the circumstances or even calculated to effect a settlement. Both sides are incompetent to carry on sustained warfare likely to bring a decision by force, but while they rest on their arms on a war footing lawlessness increases and brigandage flourishes. In the meantime China as a nation is in danger of totally losing whatever prestige she may have enjoyed and certainly goes a long way towards exhausting the patience of, and sacrificing the friendship held for her by, Powers who would be her staunch supporters could they entertain the respect that is necessary as a basis for an exhibition of such support. While the Chinese militarists and officials show disregard of the fate of their country the people of China cannot very well expect other countries to heed their cries in times of trouble, though for the people there is extenuation and abundant excuse for shortcomings.

A Tribute to the Chinese People

The very reports which bring home so crushingly the deplorable folly and weakness of the military authorities and the officials, also carry within their yellow covers the highest testimony to the splendid spirit of the people in their gigantic struggle against desperate odds. It is the people who carry on the commerce with which the reports deal, and the sur-

prising fact that foreign trade goes on despite the ravages of foes of internal peace and in 1918 reaches a record is surely a remarkable tribute to the sterling qualities of the people and a bright augury for the future should a stable government be established and the militarists be placed beyond the power

TRANSPORT OF MERCHANDISE ON THE GREAT WESTERN ROAD LEADING THROUGH SHENSI PROVINCE TO KANSU PROVINCE. THE ROAD IS ONE OF THE MOST IMPORTANT IN CHINA, AND CARRIES ENORMOUS TRAFFIC, BUT IS NEVER REPAIRED

of taking part in politics and plunging the country into civil war whenever the spirit moves them to seize the power of government—or, rather, misgovernment.

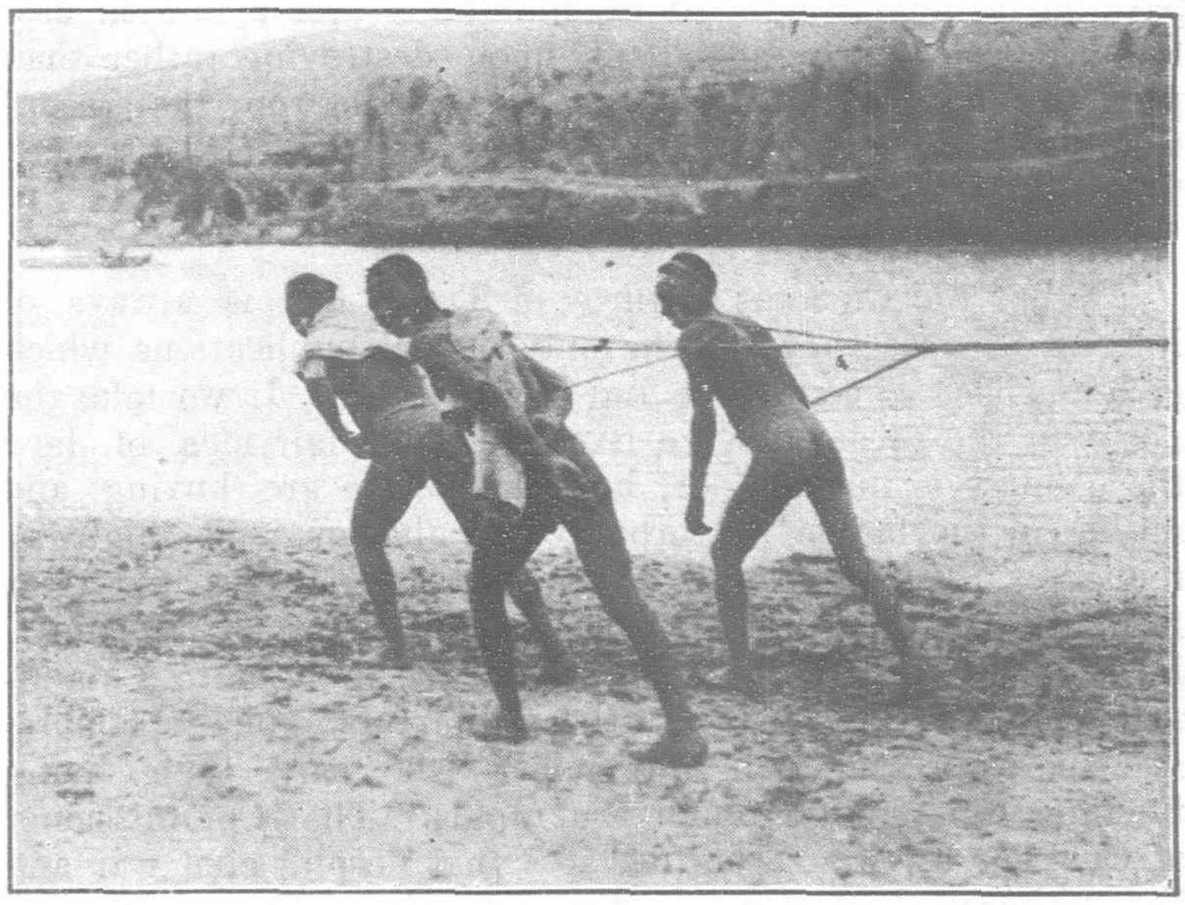
While around and about them pillage and murder have been going on for years, the people have continued their labors in their fields and in their primitive factories, in their shops and their homes. For centuries they have been fighting against official neglect, against heart-breaking exactions, and what is worse against blind ignorance on the part of those who somehow managed to secure control of the reins of government. The adherence of the people to their homes and to their hoes is what has saved China from disappearing in the melting pot. The writer has many times seen farmers and their families nonchalantly toiling in their fields while bullets and shells have screamed above and about them; while bloodthirsty folly has been rampant around their homesteads. Most of those who have been forced from their land by merciless *soi-disant* soldiers have merely fled till the pest has moved on somewhere else. Then those who could do so have returned and rebuilt and resumed the eternal struggle, employing as much philosophy as sweat, and the latter seldom ceases to ooze from their sun-bronzed skins. To this they have been bred. Their forbears lived and died fighting the elements, the voracious officials and the brigands, so why should they now funk doing likewise? The graves of the ancestors, filial piety, and the possession of indestructible patience have kept them on the soil. The brigands who now are a curse are in the main farmers who have degenerated; farmers who have been forced by famine or by criminal soldiery to take to the highways for the wherewithal to live; farmers who would, if decently treated, prefer to be honest citizens on accustomed humble fare rather than outcasts loaded with the wealth of the country they ravage.

Help the Chinese People

It says much for the peacefulness inherent in the people that the bulk of them are still farming and trading, and that 100,000,000 out of the 400,000,000, are not running amok among their fellows trying with bombs and daggers to remove from the scheme of things those responsible for their misfortunes. And because that peacefulness is inherent, because throughout the length and breadth of the land farms flourish where they can and laborers toil with unabated industry, such people ought to be helped to better government and better conditions of life whenever and wherever possible. Foreign nations ought never to forget that if the people of China turned their scythes into swords there would not be a foreigner able to live in China, and the world would have a problem on its hands which no League of Nations could settle by the application of economic pressure. Instead of flaring into the Bolshevism which has drenched Russia in blood the people of China keep on working despite the terrors let loose upon them. Nor does the daily round appear to the casual traveller to suffer much. Red war may rage but the tourist seldom sees it. What he does see in the country is an unbroken area of land under cultivation by a toiling population, most of the workers eking out an existence by the sweat of their brow, and in the cities he sees streets crowded with people ever on the move, buying this or selling that; in short, active as bees in the pursuit of commerce. The internal strife does not seem to touch these people unless it is brought right to their doors, and though brigands hold the roads the merchants carry on somehow giving up only when every device fails, and even then only temporarily. In many places they pay the brigands and pirates for safe conduct rather than trust to the protection of soldiers; but that they endeavor at all to sustain themselves against the monstrous oppression speaks volumes for their adaptability, their perseverance and their patience.

How a Record Trade is Carried On

They fight odds eternally with extraordinary fortitude and humor whether as producers or merchants, and if the producers want to get their harvests to the markets they have to carry them on their own backs, or the backs of others, or pack them on mules or donkeys or ponies, struggle with them in carts in the north and central China over trails aeons old and never repaired, through continuous clouds of blinding dust when the weather is fine and through feet of mire when the rains fall; or they toil with barrows on narrow tracks, or with junks on silted streams and canals. Sometimes the boatmen get fair going, but the travellers on the land never. For hundreds of miles merchandise is borne on the backs of men and animals into remote parts, but the farmers who live



HAULING BOATS LADEN WITH PRODUCE ON THE YELLOW RIVER, IN HONAN PROVINCE. BOATS ARE TRACKED IN THIS MANNER BY NAKED MEN FOR MANY MILES AND MANY DAYS

in those distant places cannot get their products to markets where they could profitably sell, so their crops are restricted to their own needs, and their purchasing power is reduced. And ever and anon the merchant struggling inland with his goods or the farmer coming out with his produce is held up

GOODS ARE CARRIED BY PACK HORSES AND MULES OVER LONG AND HARD TRAILS. THIS IS A SCENE IN THE LOESS REGION OF HONAN PROVINCE

for taxes at the likin (inland tax) stations planted along the way until in the end he is robbed of profit and his toil is almost resultless, if he has not previously been stripped by brigands of what he carries to sell and what he possesses about his person.

What is accomplished in spite of these tremendous disabilities is wonderful. *In 1918 the direct foreign trade of China was the highest on record, the total being Tls. 1,040,776,113, and an increase of Tls 28,325,709 over that for 1917.*

What would be accomplished were the country peaceful, were inland taxes abolished, were officials honest, were highways built and railways constructed, canals deepened and rivers conserved can be left to the imagination. China would be a land flowing with milk and honey. It is now, almost, but most times there is blood in the milk and gall in the honey. Despite this, however, the country maintains its solvency—though with a desperate struggle at the moment—, pays off its foreign obligations, maintains over a million useless troops which are bent upon destroying rather than promoting the national welfare, and carries on the record trade mentioned.

The Tribulations in Szechuan

What the Customs Returns of Trade tell is always of interest because they are the only official publications which give any idea of commerce and how it fares. If we take the ports on the great Yangtze river we get a fair idea of how the country is making out, how the people are buying and selling in the face of disturbances, fighting, and highway robbery. Look at Chungking, a port 1,400 miles up river from the sea, the outlet for the rich province of Szechuan. Here at the beginning of 1918 trade was brought to a standstill owing to the seizure by the military of junks, steamers, and the impressment of the coolies who earn their living tracking the junks through the rapids. The Commissioner of Customs at Chungking declares that despite civil war and the withdrawal of steamers the net value of the trade was Tls. 30,099,757, though this was a decrease of Tls. 3,492,776, or some 10 per cent., compared with the preceding year's figures. It is a wonder that there was any trade at all, for to reach Chungking the terrible rapids of the Yangtze have to be traversed, and on the heights of the gorges warring soldiers amused themselves by firing at struggling vessels, that is the few vessels they allowed to proceed, when they were not firing at one another. Through this interruption of traffic on the river foreign imports to Szechuan fell off by nearly 50 per cent. compared with 1917, and the value of native exports declined by some Tls. 145,896, the decrease in the price of musk, silk, cow hides, etc., being chiefly responsible. Inland from Chungking the brigands and the soldiers held high revel.

But the merchants were strenuous in their attempts to keep commerce moving, and what the Commissioner of Customs says of them is typical of all Chinese merchants and clearly shows how far the Chinese trader will go before he will quit. "Merchants," the Commissioner writes, "while *now inured to these unsettled conditions, which are now almost looked on as normal ones in this part of China*, seem determined to *do business under whatever circumstances may arise* and if only. . . . peace be at length established between the North and the South, order and sanity re-established, and that ever-increasing army of brigands kept in check by disciplined troops, the high hopes that the year 1919 will witness an unusual commercial activity in Szechuan may be justified."

Paying Brigands for Protection

Unhappily the conditions have not yet improved and 1919 will close with the gentlemen of the road still triumphant unless the foreign powers make it possible for responsible men in China to break through the military control of the administration. The Commissioner also recounts how the merchants endeavored to overcome the raids of brigands by buying their protection. "In some districts", he says, "the brigands, on payment in advance of the sum of money decided on, furnished an escort and guaranteed immunity from further levies. The plan, however, so frequently miscarried, owing to subsequent bands of brigands met with *en route* refusing to recognize the validity of the first compact and each demanding payment of the amount of their separate claims, that the merchants decided that, large as the profits were, the game was not worth the candle, because the brigands' escort fees absorbed sometimes more than the prospective profits. There remained, however, the alternative of military escorts, but

A BAD PIECE OF ROAD IN HONAN. DRAUGHT ANIMALS HAVE A BAD TIME OF IT IN ALL PARTS OF NORTH AND WESTERN CHINA, AND SO DOES ANYTHING FRAGILE WITH WHICH THE CARTS ARE LADEN

these too frequently proved unreliable and expensive and were not therefore oftener availed of than force of circumstances necessitated."

This is a cold statement of fact by a foreign official, which might legitimately be colored into a tragic story. Imagination, however, can picture what happens to the carriers of merchandise and products in the mountain fastnesses and on the hard trials which lead for hundreds of miles through the province and which are the only overland routes to the up-country markets. Yet to these markets, in the face of the exactions and the perils, Chinese merchants took during 1918 foreign goods to the value of Tls. 4,884,992, chiefly in cotton goods, with kerosene oil, medicines, cigarettes, seaweed and agar-agar, lamps and lampware, umbrellas, needles, borax, dyes, ginseng, soap, and some metals, tools, etc. Yet the total value was just a little over half of that which was got through in the previous year, viz., Tls. 9,551,265. And they carried back for shipment from Chungking goods for export valued at Tls. 14,872,629, including metals, bristles, cereals, fibres, hides, medicine (valued at Tls. 2,025,938), nutgalls, silk, goat skins (1,451,770 pieces), tobacco leaf, white wax, sheeps' wool, grasscloth, feathers, rhubarb, tallow, turmeric, etc.

When it is considered that the European War dislocated all trade from abroad, and the internal strife in China did its best to kill inland trade the fact that the difference between the total Chungking returns for 1914 and 1918 was only a decrease of some Tls. 7,000,000 it will be admitted that the Chinese merchant deserves the highest credit for his perseverance and the fullest possible assistance in the removal of the disabilities which beset him.

The Heel of the Oppressor at Wanhsien

The trade returns from Wanhsien, the next port down river from Chungking, also severely suffered as a result of "the prolonged fighting in Wushan Gorge, the frequent demands for money on local merchants and gentry, the establishment of numerous barriers on the river by the military authorities, the temporary withdrawal of steamers from the Ichang-Hankow line, the indiscriminate impressment of trackers for military service, the scarcity of junks and the considerable delay in transportation of goods." Yet the value of the port's trade reached Tls. 5,586,542. "Under such a combination of adverse factors, it augurs well for the future prosperity and trade of this port under normal and peaceful conditions." The frequent appearance of troops at the port, passing on the river, often caused the streets to become deserted, junks to disappear, the price of rice to advance and "several large Chinese merchants were obliged to close their doors and take refuge in the country in order to escape the insatiable military exactions.

Fortunately climatic conditions were very favorable for all spring agricultural productions and bumper crops of rape-seed, beans and peas were harvested." The crops of silk were also exceptionally good throughout the three seasons and with the disappearance of troops, both import and export trade revived.

One of the exactions from which the port suffered was the establishment by the military of a temporary barrier just outside the lower harbor limit, for the collection of "extraordinary military insurance fees," on cotton yarn and piece goods carried by chartered junks from Wanhsien to Chungking. About eighty large junks laden with cotton goods of the value of Tls. 1,600,000 were held up at this port and were only finally released on payment of fees amounting to nearly Tls. 5,000. Through junks from Chungking which were also held up for half a month, were forcibly liberated "as a result of vigorous action taken by a British gunboat." Money was tight throughout the year on account of no importation of silver from down river ports, and on account of the fact that the military made the merchants and gentry lend them something like $350,000 during the year. In the face of these conditions, the imports, direct and coastwise of foreign goods amounted in value to Tls. 803,598, while Chinese goods (exports abroad and coastwise) amounted in value to Tls. 2,665,304, an increase of 105.4 per cent. over the figures of 1917. Imports reached a total of Tls. 2,117,640, there being a remarkable increase in the import of native cotton yarn.

The imports consisted of cotton goods, palmleaf fans, kerosene oil, umbrellas, perfumery and cosmetics, soaps, socks, sugar, lamps and lampware and medicines, etc. The exports included wheat, rice, fibres, hides, medicines, nutgalls, wood-oil, joss paper, pottery and earthenware, rapeseed, rapeseed cake, goatskins, tallow, salted vegetables, vegetable wax, tobacco, varnish, crude lacquer, etc.

There was no direct export to foreign countries from this port, most commodities going to down river ports for distribution.

Among the interesting items mentioned by the Commissioner of Customs is that wood-oil, the most important article of export, showed a remarkable increase from 31,180 piculs in 1917 to 64,765 piculs in 1918, of which 10,399 piculs were shipped direct to Hankow by chartered junks. About 59,400 piculs were also shipped by likin junks to Hankow. Large purchases were made at prices ranging from Szechuan Tls. 10.50 to 11.50.

Some indication of the rise and fall of the Yangtze is given by mention of the fact that in 1918 it was 106 feet 4 inches at Wanhsien.

The Strong and the Weak

"The year 1918 opened with the country divided into two hostile sections: South against North. That is to say, the military and political leaders were so divided: *the vast body of the nation were totally unconcerned, save in so far as they were made direct sufferers by the operations and depredations of the belligerent forces.*

"Many large and flourishing cities were repeatedly sacked by the cotending forces, though the people were guiltless of offence against either of the belligerent armies.

"Large areas were overrun by soldiery, whose depredations seriously interfered with trade as well as all other occupations of everyday life.

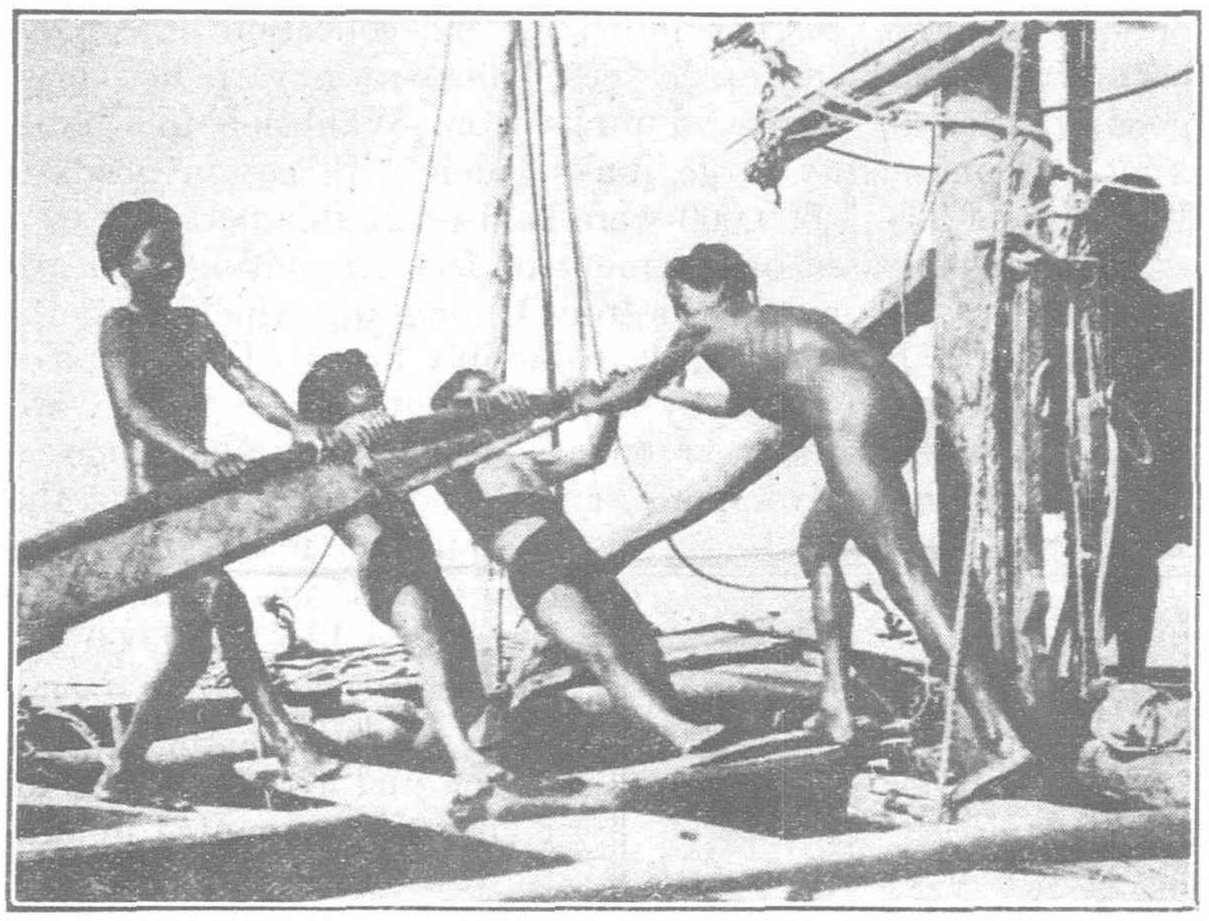
"The internecine strife has been terribly costly in life, property, and human happiness, in detrimental results to industry and trade, and in loading the country with a huge and unproductive increment to the public debt.

"*But China's recuperative capacity is proverbial. Given a fair chance under good government, and the country and nation will again flourish aboundingly.*"—Mr. J. F. Oiesen, Statistical Secretary, Chinese Maritime Customs in his "Report on the Foreign Trade of China" for 1918.

Ichang Blockaded but Doing Business

The merchants and residents of Ichang in 1918, also suffered seriously from the political disturbances, the port being surrounded by Southern troops. Communication with the

upper and middle Yangtze was at one time entirely interrupted, amounting almost to a blockade, as even foreign steamers were fired upon and otherwise interfered with *en route* between Hankow and Ichang. Trade was paralysed by brigandage caused by the prolonged unsettled state of affairs



SMALL CHILDREN ARE SET TO WORK EARLY AT THE GREAT STERN OARS OF JUNKS IN ALL PARTS OF CHINA

on the Upper Yangtze. In spite of adverse conditions, the total gross value of the trade of the port coming under the cognizance of the Customs, was Tls. 8,443,271, almost an equality with that of 1917. The net value of foreign imports in 1918 was Tls. 682,948, against Tls. 2,157,359 during the previous year, or a decrease of almost Tls. 1,500,000. "This marked discrepancy in the figures does not, however, represent a big decline in the foreign import trade, but is mainly due to a large excess of re-exports over imports of certain foreign goods, which amounted to Hk. Tls. 633,372.

Chinese goods exported total in value Tls. 2,142,596, an unprecedented quantity of raw cotton being shipped when Japanese dealers were active in this connection, but the low price of Tungchow and Ningpo cotton made competition difficult. "Of the staple exports, bamboo mats, medicines, raw yellow silk, vegetable crude wax, vegetable tallow and varnish all show an increase. The trade in the last-named agricultural product was entirely done by the Japanese firm Messrs. Kiyake & Co., and the shipments of this varnish, though declared for Hankow and Shanghai, were intended for markets in Japan, where it is used for the manufacture of lacquer. . . . The exports were chiefly hides, wood-oil, goat-skins and animal tallow, and all show a decline. Beans of all kinds, sesamum seed, wheat and rape seed also did very poorly, because most of the fields under cultivation in the interior had been devastated in the spring by lawless and undisciplined soldiers passing at the time through that part of the country, and *the peasants had to abandon their farms in order to escape the danger of being shot or commandeered.*

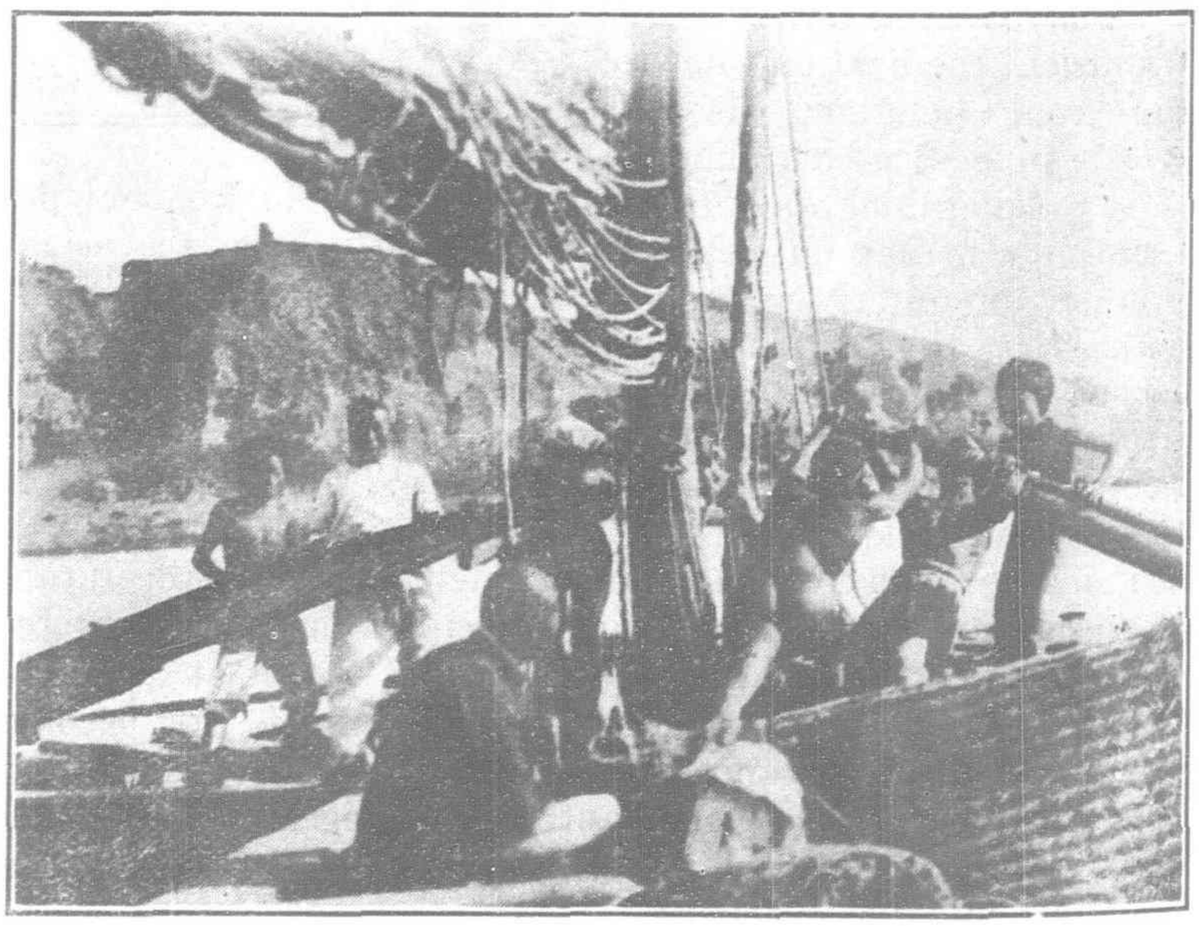
The value of Chinese produce, imported mainly from Chungking, Hankow and Shanghai, amounted to Hk. Tls. 3,484,028, of which Hk. Tls. 2,410,337 were subsequently re-exported, leaving a net total of Hk. Tls. 1,073,691.

The Sufferings of Shasi

The merchants and gentry of Shasi, a Treaty Port some 881 miles above Shanghai, and 293 miles above Hankow, were severe sufferers from the civil war and the bandits. The country was "overrun by bands of soldiers under little or no control. All the well-to-do people who could afford to leave Shasi fled, a general feeling of insecurity prevailed and native trade was practically at a standstill. On January 22, 1918, the city was captured by the Government troops, and on the nights of the 21st and 22nd the city was looted by the soldiery in search of money and mufti, the officers in command of the Southern troops having fled. Until the Northern troops arrived anarchy and disorder reigned unchecked, and when the Government troops arrived there was a "rush of fleeing independents and civilians." The restoration of order failed to bring back confidence, "shutters remained up and general stagnation of trade continued." Bands of Kwangsi and Hunanese soldiers infested the river banks and attacked all passing steamers so persistently that the Indo-China and China Navigation Companies withdrew their vessels between Hankow and Ichang and only two vessels belonging to the Nisshin Kisen Kaisha were kept running. British gunboats ultimately accompanied British steamers and exchanged fire with the soldiers, and early in March steamer traffic was resumed, at first under escort of gunboats. Floods in August and September added to the misery by spoiling the good crop prospects, the bund of the city and low-lying land being flooded. In the autumn there was a smart revival of trade, and notwithstanding the terror that was let loose about the city in the early part of the year the year wound up with foreign imports totalling in value Tls. 3,134,809, a gain of Tls. 730,153 over the previous year. Cigarettes, kerosene oil, sugar and cotton piece goods and yarn were the principal imports, with gunny bags, umbrellas, seaweed, etc., also in demand. Chinese goods exported totalled in value Tls. 2,169,971, against Tls. 1,541,408 for the previous year. Cotton was the chief export. The cost of picking was increased from ten to forty cash per catty owing to shortage of labor due chiefly to influenza. Wood-oil, medicines, goat-skins, rape and sesamum seed also showed marked increase. The net value of Chinese imports was Tls. 1,057,712, against Tls. 476,785 for 1917. So here again the Chinese merchants and producer demonstrated that he was not to be floored by adversity. The trials they had to put up with would have disheartened less hardy people, but they seem to have exhilirated the men of Shasi.

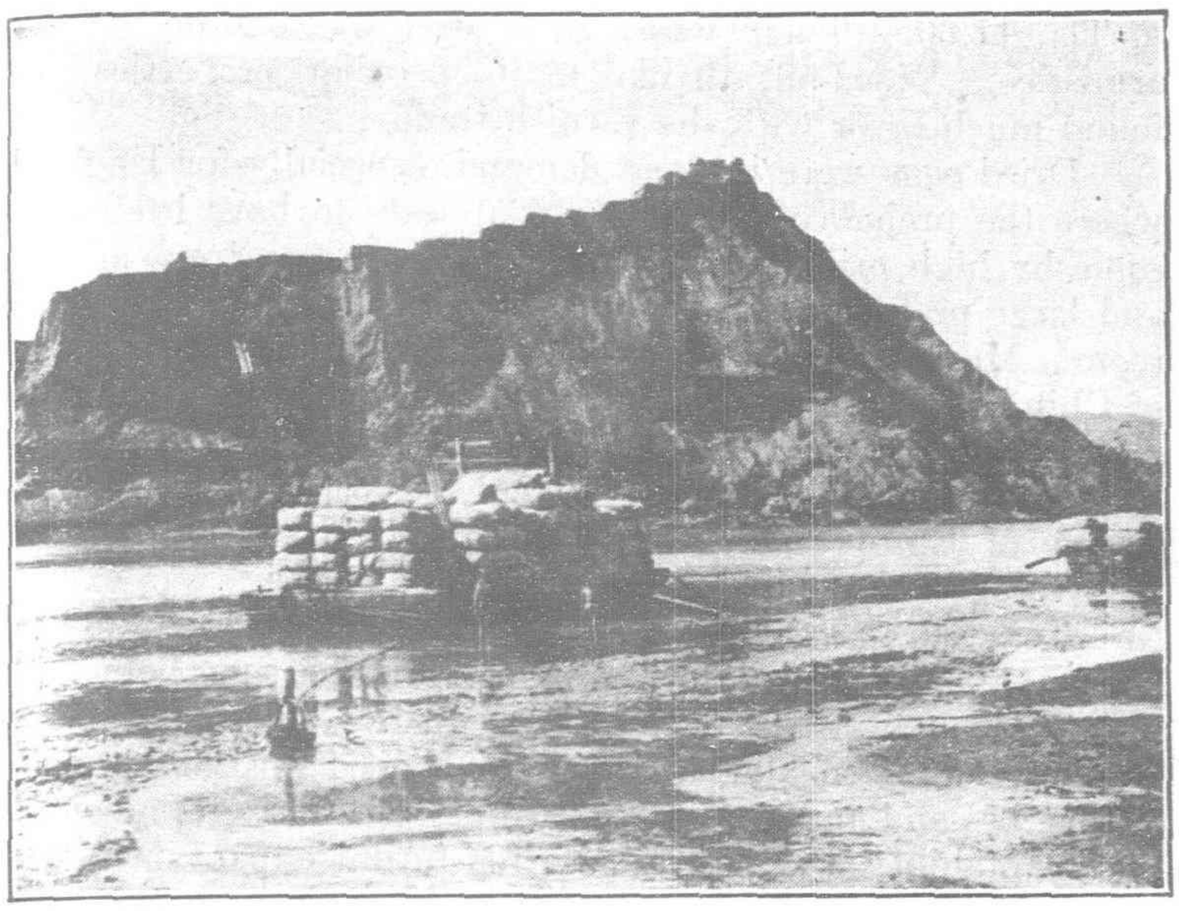
Changsha in the Throes

Changsha, the capital of Hunan Province, whence is exported great quantities of mineral products in ordinary times, was also staggered by unrest which "paralysed com-



ALL HANDS AND THE COOK BEND TO THE OARS IN STEMMING THE CURRENTS OF THE RIVERS

mercial enterprise throughout the year; while the prevalence of bands of roving soldiers through the province pillaging and plundering interfered with the movement of money and goods." When actual fighting broke out "all the officials



A LOAD OF COTTON ON THE YELLOW RIVER

except the magistrate fled, land and water police disappeared, and the crews of the guard-boats abandoned their vessels. All authority being thus removed bands of thieves started looting the city and its suburbs."

The poor merchants were consequently victimised again by their own stupid countrymen, but they kept business going when they could with the result that the gross value of the trade of the port reached a total value of Tls. 22,971,863, being but some four and a half millions below that of 1917. The value of imports direct from foreign countries was Tls. 2,028,971, and of those imported through Chinese ports was Tls. 6,879,832. Piece goods, copper for coinage, cigarettes, matches, kerosene oil, velvets and veleteens, cotton blankets, railway materials, iron, bags, buttons, clocks and watches, dyes, electrical materials and fittings, glass, lamps and lamp-ware, machinery, needles, seaweed, soda, sugar, and umbrellas were the most important foreign imports, while under Chinese imports the chief lines were books, asbestos, dates, cement, cuttle fish, flour, medicines and prepared tobacco.

The value of Chinese produce exported was Tls. 10,740,446, which with re-exports amounting to Tls. 94,846, made a total of Tls. 10,835,292, which shows that "notwithstanding the alarming disturbances within the province, a fairly good business was done." There was again an enormous export of antimony regulus, totalling 248,897 piculs, an increase of 26,835 piculs over the unprecedented export figure of the previous year. Crude antimony, on the other hand, showed a decrease—304,196 piculs—while lead ore fell to the amount of 203,799 piculs. Shipments in manganese ore increased 97,180 piculs and wolfram ore increased to 3,795 piculs.

The state of the Changsha money market remained as chaotic as ever and all steps taken by the authorities to improve the situation would seem to have been nothing more than attempts to juggle with a currency which is as bewildering as it is valueless.

The City of Yochow Burned

The port of Yochow was also victimised by the soldiery, the larger and better part of the city being burned. "The people, rich as well as poor, endured indescribable hardships. . . . For months the people seemed dazed and absolutely without hopes or plans; but towards the end of the year there were indications that the traders of Yochow were making another bid for prosperity; considerable building operations were begun and some of the new houses, shops, etc., are of semi-foreign style though they are not of a substantial character."

Here again we see the manifestation of the spirit that is certain someday to make the Chinese a great people, if they but get the chance to rise out of the slough in which they have been plunged. Notwithstanding that the city of Yochow was twice evacuated and reoccupied, and burned, and that the whole province was in turmoil, the merchants overcame the adverse conditions and the trade for the year was a record, the net value being Tls. 10,282,282. This total is the highest since the opening of the port, the net value of foreign imports being Tls. 3,664,838. Sugar was imported to the amount of 67,162 piculs, against 13,957 for the previous year, and foreign caps and hats, gloves, needles, singlets, and drawers, soap and socks, are becoming increasingly popular. Piece goods, kerosene, cigarettes, dyes, fans, haberdashery, machinery, lamps, medicines, paper, seaweed, stationery, and umbrellas were foremost among the imports.

COTTON PIECE-GOODS AND CLOTH MARKET AT PEKING

Apart from the numerous shops which sell piece-goods, every big city in China has its army of hawkers, who, laden with piece-goods, tramp the streets. Open-air sales are also held on various vacant lots as depicted in this illustration of a street display in Peking.

A flourishing trade was done in Chinese exports, a large portion being destined for foreign countries. Antimony regulus, quicksilver, bristles, cinnabar, raw cotton, coir, ramie, fire-crackers, hides, nutgalls, wood-oil, soda, tallow, and varnish are conspicuous by their enormous gains over previous years. It is noteworthy that wood-oil was exported principally to meet the ever increasing demand for the article in America, to the extent of 133,339 piculs, against 30,948 piculs in 1917. The total value of exports from the port for 1918 was Tls. 5,610,415, against Tls. 2,222,702 for the preceding year. The net value of Chinese goods imported amounted to only Tls. 1,927,029.

Yochow also suffered from shortage of steamer accommodation, vessels missing the port owing to the bombardments they had to endure from soldiers. Those vessels that persisted in running had to have bullet proof shields erected around the cabins and navigating bridge, and they were convoyed by

gunboats. There was extensive commandeering of steam vessels by the military and it was nearly the middle of the year before they were back on their respective runs.

Hankow Merchants Cautious

Hankow, the most important port on the river, while not having actual contact with the troubles which beset the other ports mentioned, still suffered, the Chinese merchants not being willing to risk "transactions with districts where law and order are non-existent and which are overrun by bandits or by disbanded or mutinous troops. The feeling of instability may be gauged by the large arrivals from Honan during the summer of foreign piece goods hurriedly reshipped to this port on account of the danger of looting and incendarism. The year ended could not have been a profitable one for the native merchant. Business has been too circumscribed, and much difficulty has been found in trying to bring down produce from the interior owing to disturbed conditions. It says much, however, for the native dealer that, although deliveries have been delayed at times, there are no cases reported, in spite of heavy losses, of dealers endeavoring to evade their contract obligations on the plea of conditions being beyond their control."

RUDELY MADE JUNKS USED ON THE YELLOW RIVER. MANY SUCH BOATS ARE FLOATED DOWN FROM KANSU PROVINCE LADEN WITH PRODUCE AND ARE BROKEN UP AND SOLD AS LUMBER IN HONAN PROVINCE

The Commissioner thus gives the Chinese merchant another feather for his cap, and shows that the native merchant maintains a reputation that he has long enjoyed.

The total importation of foreign goods amounted to Tls. 55,298,669, a decrease of Tls. 1,894,635 when compared with 1917. Direct importations from abroad came to Tls. 30,974,-893, and coastwise arrivals Tls. 24,323,776, representing a decrease of Tls. 5,780,385 and an increase of Tls. 3.885,750 respectively. In cotton piece goods there was a falling off under most headings. Kerosene oil also fell off, but there was an increase in Sumatra and Borneo oil, a fact noticed in other ports. The high price of kerosene drove the poorer classes to revert to their native vegetable oils, this being particularly noticeable in those districts where native oils are indigenous and where the lack of an export demand threw large quantities of those oils on the local markets.

The total value of exports of Chinese goods amounted to Tls. 115,958,451. Raw cotton showed a large advance, the crop being a good one. The Commissioner emphasises that it is a pity, in view of the bright prospects for the Chinese cotton trade and the large areas under cultivation that no practical steps have yet been taken to improve the quality of the cotton and to develop cultivation along modern lines. Beans of all kinds increased, though sesamum seed decreased. Wood-oil advanced by 11,384 piculs. An increased demand from America caused prices to rise from Tls. 14.30 per picul to Tls. 17.60. There was a drop after the signing of the armistice. Wood-oil, thanks to its peculiar properties, has found much favor with the varnish trade.

Dried eggs were in great demand, especially for England, where the prejudice against them appears to have been overcome by high prices of fresh eggs. Prices rose tremendously and large profits were made by those fortunate to get freight room. Many factories are now being erected in various parts of China in which manufacture will be carried out under the most approved scientific methods.

The tea trade suffered a violent set-back owing to the closing of European markets and only about 37 per cent. of the average shipments for the previous five years was exported. Tea was one of Hankow's chief lines of export, in fact her staple export, and the loss of this for the time being was serious, though, as the Commissioner points out, the fact that Hankow has been able to maintain a good position in spite of this loss and an aggregation of other troubles says much for the adaptability and possibilities for future expansion of the trade of the port.

The list of foreign imports to Hankow is a lengthy one, and embraces all manner of manufactured articles, which are distributed over a wide area. Exports also are numerous, and include pig iron, iron ore, beancake, beans of various kinds, wheat, fresh eggs, medicines, and goat-skins.

Kiukiang Upset by Political Conditions

From Kiukiang, a port some 435 miles above Shanghai, we hear further tales of distress. In 1916 this port had its record trade year, Tls. 42,406,996, but in 1918 the net figures were Tls. 40,043,930. The Commissioner of Customs remarks that "political conditions throughout the province were not entirely conducive to trade and though there was little actual fighting the incessant movement of troops, especially in the earlier part of the year, restricted means of transport and hampered commerce," but business was pursued by the Chinese and the result at the end of the year justifies the Commissioner in saying that the volume of trade done "gives cause for an optimistic outlook on the future." The gross value of foreign imports during 1918 was Tls. 9,531,073, while Chinese produce imported totalled Tls. 9,747,416. Foreign imports included largely piece goods of all kinds, palm leaf fans, dyes, metals, kerosene oil, cigarettes, matches, glass, needles, sugar, umbrellas, etc., while the exports embraced beans, rice, wheat, chinaware, cotton, fibres, groundnuts, hides, indigo, mats, medicines, silk, tallow, tea, tobacco, and timber. "Despite phenomenally fine markets awaiting them at destination, only 189 rafts of wood passed through, as compared with 242 the season before. The timber trade was severely hampered in consequence of the fighting in parts of Hunan and Kiangsi, and rafts have reported that *in order to get past certain military occupied areas a stiff protection fee of about a thousand dollars had often to be paid.*"

Wolfram and unmanufactured iron in pigs appeared for the first time as exports while the quantity of coal from the Poyang, Loping, Yukan and other districts considerably increased.

Nearly all the needles (39,260 mille), came from Japan, while favorable exchange on Japan and rivalry between Japanese refineries resulted in a considerable influx of Japanese sugar. Japanese matches, which mostly reached Kiukiang by lorcha owing to high steamer freights, fell off, the decline approximating 100,000 gross.

The export of chinaware declined by 21,253 piculs compaded with the previous year, chiefly owing to interruption by bandits of the trade routes, and shipment by junk to Pukow, and thence by rail northwards, without touching Kiukiang.

Owing to the scarcity of artificial dyes an unprecedented impulse has been given to the trade in native liquid indigo.

Wuhu Merchants Tranquil

Wuhu, a treaty port about 256 miles from Shanghai was more fortunate than the sister ports upstream, for during the year it was not directly bothered by soldiers or brigands and trade returns were high, totalling in value Tls. 29,175,335. This was Tls. 9,388,314 better than the previous year and has been surpassed only on two previous occasions. Wuhu is the distributing centre for most of the rice raised in Anhwei Province, and large demands caused brisk trade. The value of foreign imports reached Tls. 9,827,437, while Chinese produce imported was valued at Tls. 6,375,170. Piece goods as usual constituted the chief foreign imports, the chief feature in this business being the increase in the import of Japanese manufactures. Kerosene oil, bags, fans, cigarettes, cement, cotton yarn (Chinese), clocks and watches, dyes, glass, haberdashery, hosiery, lamps and lampware, matches, medicines, needles, sandalwood, seaweed, soap, soda ash, sugar, timber and umbrellas, were the leading imports of foreign origin. Practically the whole of Wuhu's export trade to foreign countries consists of iron ore loaded on Japanese steamers, under special license, at Tikiang—most of which went to Japan. Rice exported amounted to 3,190,-827 piculs, while fresh and preserved eggs totalled 4,199,-190. Feathers, fish, flour, groundnuts, nankeens (native cloth), gypsum, hides, medicine, rape-seed, seedcake, paper, goat-skins, timber, wood poles, tallow, sugar, etc., were also dealt in.

During the year a telephone company was established.

The buildings of the Yu Chung Cotton Mill were completed and part of the machinery installed.

While general trade of the port was allowed to go on in peace the lumber people suffered. The Commissioner reports that military operations and brigandage in Hunan and Kweichow hampered the trade, rafts being obstructed.

Nanking Business Increased

The port of Nanking was disturbed during the year by the movement of troops and the commandeering of rolling stock on the Tientsin-Pukow line, but the merchants managed to do business which was an increase over the previous year, being valued at Tls. 22,995,766. Foreign goods fell off, but totalled in value Tls. 11,188,284, imports including all kinds of piece goods, different kinds of metal-ware, gunny bags, cigarettes, candles, dyes, enamelware, glass, matches, needles, kerosene oil, sandal wood, soap, soda ash, sugar, timber, umbrellas, etc. Chinese produce imported totalled Tls. 4,590,025, Chinese exports totalled Tls. 8,075,482, including cotton cloth, beans, dates, eggs, fans and fan frames and handles, feathers, groundnuts, hides, fresh or frozen meats, medicines, groundnut oil, seeds, goat-skins, tallow, etc.

The Commissionér reports on the increased freight traffic on the railways, which we refer to elsewhere, and the excellent work of the Nanking university in developing agriculture, also mentioned elsewhere.

The riverine suburb of Siakwan continued to expand during the year, low-lying land was filled in, and many new buildings were built, among which the most important was the new post office. Rents are constantly rising. The existing roads are inadequate to serve the traffic and the need for at least one more main road from the Bund to the city is more pressing than ever.

The Chinese People should be Helped

"And amidst the uproar of a world in arms China herself was bleeding internally from civil strife, which tortured and partly laid waste some of the largest and fairest provinces in the land. Brigandage of a very serious nature —so serious at times as actually to stop railway traffic—was a scourge in many section.

"The seasons appear to have been propitious and crops abundant, producing an unusually high degree of prosperity and well-being almost everywhere except in the areas immediately affected by the civil war.

"Notwithstanding the extraordinary and grievous drawbacks under which nearly all mercantile transactions had to labour, the value of the direct foreign trade of China for 1918 was the highest on record, the total being Hk. Tls. 1,040,776,113, and an incresse of Hk. Tls. 28,325,709 over that for 1917.

"Though this result was due to the universal advance in prices and in spite of extensive shrinkage in the quantities of merchandise handled, it yet serves as *striking evidence of the vigour and elasticity of China's trade. Further, it serves as an earnest of the development that may be looked for with the return of peace and normal conditions the world over.*"—Mr. J. F. Oiesen, Statistical Secretary, Chinese Maritime Customs, in his "Report on the Foreign Trade of China" for 1918.

Chinkiang being Throttled

While the Commissioner of Customs at Chinkiang reported that it was "difficult to find anything of an encouraging nature to report" he did not this year have, as he has so often done before, to talk of depredations by troops, but he has felt it incumbent to refer emphatically again to the gradual silting of the river which is rapidly threatening the existence of Chinkiang as a shipping port. In this direction the merchants of the district are being penalized seriously, nor will they be able to develop trade as they should until something sensible is done to prevent the disaster which threatens the port. What Mr. Mayers, the Commissioner, says deserves the widest publicity in the hopes that the powers that be will awaken to the importance of his warnings, and we, therefore, quote his words *in extenso*, hoping to awaken the governing bodies to a realization of the duty they owe the merchants in particular and the country in general. Mr. Mayers says:

"The deterioration of the harbor, to which attention is drawn every year, steadily continues and is rapidly threatening the existence of Chinkiang as a shipping port. The removal of the Chengjenchow sandspit, now a large island, which has grown from a small shoal in 1905 to its present dimensions, would not be difficult from an engineering point of view. The statements that have been made in various trade reports that remedial measures are "impossible," were apparently based on exaggerated estimates of the cost of the work, which in a matter of such enormous public importance should not be allowed to interfere with any well-considered scheme for the amelioration of existing conditions. It is not the immediate vicinity of Chinkiang alone that is in a serious condition: the state of the entire Yangtze Val-

ley calls for early and careful study. The improvement of several rivers and seaports in China has been or is being attended to, or is under consideration; but in most cases these improvements benefit only one port and a limited area; whilst China's principal waterway, and one of the greatest rivers in the world, the Yangtze, with 10 open ports actually on the river itself, some "Yangtze stages," numerous passenger stations, and an immense area, north and south, dependent upon it as their chief channel of communication with the sea, has apparently been entirely overlooked. At least, nothing has yet been done to improve the river, of which no complete survey even exists.

"A considerable amount of conservancy work has been done on the northern section of the Grand Canal recently. During a trip the writer made to Tsingkiangpu and back in July last, six dredgers were passed, four of them at work. There are now some fine reaches in the canal. From Kwachow to near Yangtzekiao, a distance of about 20 *li* (7 miles), the canal is of considerable width and has stone-faced sloping banks of recent construction. Between Kaoyu and Tsingkiangpu there are also some broad reaches; but in the vicinity of towns there has been much encroachment on the waterway, especially at Yangchow, where wharves for steam-launches have been built out into what was, at its best, only a narrow channel. In the interests of general trade, apart from passenger traffic, these wharves should be entirely removed and a suitable basin provided for launches, etc., on the east side of the canal, where there now is ample vacant space for such a scheme. The whole district between Kwachow and Tsingkiangpu, on both sides of the canal, and even farther, especially in the north-eastern part of the territory, affords an excellent field for the transportation of native produce and the distribution of foreign goods by steam or motor vessels with tows, if only the waterways are properly maintained.

"Chinkiang is the natural outlet, as well as the supply base, for this area, and the improvement of shipping facilities at this port calls for immediate atttention. Unfortunately, nothing has been done to improve the section of the canal south of the river, and the mouth at Chinkiang has become badly obstructed and is dry in the low-water season. Every year's delay will naturally add to the ultimate cost of improving this important waterway."

In spite of all drawbacks the net value of the trade of the port for 1918 was a little over a million taels more than in 1917, and it approximated the figures for the two years before that. The value of the trade of the port totalled Tls. 21,372,795, foreign imports being Tls. 12,515,157, Chinese imports Tls. 5,474,908, and exports, Tls. 3,382,730. The chief imports were piece goods, kerosene, cigarettes, various metal ware, bags, clothing, hats, candles, coal, dyes, fans sandalwood, seaweed, soap, sugar, umbrellas, etc.

Chinkiang is the last Treaty Port on the Yangtze river coming down stream, but it is not the only one confronted with river troubles. At every port, especially Kiukiang and Hankow, difficulties are always present and the channels are constantly shifting. This problem alone is one to which the trading nations should give the closest attention. Commerce suffers seriously for the simple reason that the movement of steamers and junks is hampered, and everything possible should be done to facilitate the interchange of products. On the upper reaches of the river the problem is one of a different character and must be dealt with as a special one. There the navigation of dangerous gorges through which great volumes of water thunder over submerged reefs must be made safer. At present every vessel that attempts to navigate the gorges runs desperate risks, which ought at least to be minimised if not altogether eliminated. Mr. Mayers' suggestion that the Yangtze problem be undertaken as a special one deserves acting upon. The trading nations ought to deal with it as one of the largest questions to be taken up, and to this end the Chinese government should be assisted both financially and otherwise.

It will be seen from the above extracts from the Customs reports that the people of China deserve the utmost sympathy and help. The vast potentialities of the country, the resourcefulness of the people in times of adversity, their courage and fortitude are demonstrated more effectively than if times were peaceful and commerce normal. That the Chinese have carried on and that trade for 1918 was a record in the face of civil war and brigandage is sufficiently astonishing we hope to attract the attention of foreign statesmen and inspire them to ponder the problems which await settlement here with a view to action to find solutions for them.

Sericulture in China

An important event in the history of the silk trade in China, writes Mr. J. F. Oiesen, Statistical Secretary, Chinese Maritime Customs, in his report for 1918, was the formation of the International Committee for the Improvement of Sericulture in China, which was brought about mainly through the instrumentality of Mr. Ting Ju-lin, a prominent silk merchant, who has been for some years, on his own initiative, engaged in improving the quality of Chinese silk. He enlisted the assistance of the foreign chambers of commerce and of the Foreign Silk Association, the Chinese Chamber of Commerce having already supported him. Through the united efforts of these bodies a subsidy of Haikuan Tls. 4,000 monthly was granted by the Chinese Government; the services of an expert from Indo-China were engaged, and schools established at six stations in Kiangsu and Chekiang. That no further time was to be lost may be realized from the statement that upwards of 90 per cent. of the cocoons at present used for breeding are more or less affected with disease; that the worms are insufficiently fed and are piled up in very narrow rooms, the seeds never being selected; and that a great number of them die from sickness before producing their cocoons, a still greater number of them producing only weak, thin, or faulty coccons. Consequently the weight in cocoons yielded by the breeders is very poor considering the number of worms raised.

At the stations already established by Mr. Ting Ju-lin excellent results have been obtained, *e.g.*, a weight of only 3.60 piculs of cocoons is required to yield 1 picul of raw silk, as compared with 5.50 to 6 piculs from cocoons raised in the ordinary haphazard way. One of the stations organized under the new scheme is that attached to the University of Nanking. In addition to giving a short course in sericulture, the Nanking school is undertaking the commercial production of certified silkworm eggs, according to the Pasteur method, and is carrying on an extensive mulberry experiment as well as the production of the mulberry on a commercial scale, the idea being to provide good mulberry trees at a low cost price in order to stimulate mulberry planting. As regards seed cocoons, the stations of the Silk Institute will select specimens from the silk districts, classify them and study them according to their value both to the breeder and spinner. The best varieties and their cross-breeding will be sorted out, and the seeds thus produced will be distributed to the breeders. This reform in silk culture has been urged for the past 30 years, and now that the initial difficulties in the way have been overcome, there seems to be good hope that great strides will be made so that China's silk industry may be placed in a position to meet the ever-growing competition from other countries. The superior quality of Chinese silk is fully established and universally recognized: it only remains to secure an increase of quantity by the adoption of scientific culture. The fact that Cantonese silk merchants have made inquiries concerning the work of the Committee indicates that steps will also be taken to improve the southern silk.

In the course of an article in the "Times Trade Supplement" on British and Chinese co-operation, Professor Middleton Smith, of Hongkong University, shows some pessimism. He sets it down as his experience that Chinese directors of a joint enterprise would wish to purchase a plant, say, for an electric light concern, from the firm who would give them the best commission, being indifferent to the quality of the machinery. They also would be far more influenced by the offers of some selling agent than by their own expert's advice. Professor Smith is of opinion that the Chinese official expects too much and usually has an exaggerated idea of the value of his own efforts in any matter of' co-operation. He says that in the past the merchants of China conducted their business with the British to the mutual benefit of both nations but the difficulties of extending the trade have been invariably due to the Chinese officials. Several British concerns are getting into closer co-operation with Chinese and we have announced the establishment of two new Sino-British co-operative enterprises in recent months. There are others pending. The experience of some existing co-operative organizations is to the credit of those Chinese who have capital invested in the concerns. One thing always is to be remembered and that is that there is a great difference between the average Chinese commercial man and the official. British or any other capitalists who will co-operate with the *bonâ fide* commercial men of China should have no reason to regret their venture.

Remarkable Development in Mohammedanism in Western China

A "New Prophet" rules Hordes of Semi-barbaric Mohammedan Fanatics with Patriarchal Simplicity but with Absolutism

By RODNEY GILBERT

A functionary of the Cabinet Office, who is also a member of the President's Secretariat, an intelligent young Chinese who drives a dog-cart, speaks English, and has other ultra-modern accomplishments, recently told me solemnly that the Mohammedans worship a donkey. Other equally intelligent and equally high placed officials have informed me with the same solemnity that the Mohammedans worship pigs. These people live in a city in which there are forty-six mosques, fifty families directly descended from the prophet, and perhaps a hundred thousand Mohammedans. Probably the only other information they could impart about their Mohammedan fellow citizens is that they hold a monopoly upon the meat markets of Peking and have a fashion of hanging out little signs with the two characters "Hui-hui" upon them to distinguish themselves from the common run of the sons of Han.

Although China has a population of Mohammedans, variously estimated, but probably not less than 25,000,000, made up largely of the descendants of warriors whom the Chinese and Mongols imported at various seasons of stress and tribulation to fight for them, and who still constitute one of the hardiest and most warlike elements of the population of the Republic, Chinese officialdom insists upon being pathetically ignorant of everything having to do with them or their religion.

There is probably no one in the Chinese government, unless he be a Mohammedan, who realizes that every year thousands of China's citizens, impelled by religious motives, set out across Asia to pay their respects at a tomb ten thousand miles from Peking, in a country that does not even exist in the geography of the average Chinese. Even during the war, when this might have had some political significance, there was not one Chinese in a thousand who realized that this distant object of pilgrimage was in a land governed by an ally of Germany. Neither do the Chinese who pretend to govern their country realize that the great majority of China's Mohammedan population look upon their Chinese citizenship as purely incidental and superficial.

The true Mohammedan has no nationality. Religion with him obliterates nationality. Until the war interfered so seriously with Mohammedan affairs, the sole head of the Moslem religious organization was the Sultan of Turkey, in whose person was vested the sanctity and power of the Caliphate. Every Chinese Mohammedan understood this perfectly. No Chinese who was not a Mohammedan ever gave it a moment's consideration.

In Turkestan China governs a territory which is nearly half as large as China proper and which has a population of people, Turkish speaking, who were once most aggressively warlike. These people are now classed as citizens of the Republic. Ask any one of them his nationality and he will immediately reply that he is a Mohammedan. If you insist that Mohammedanism is not a nationality but a religion, he will, after much perplexity, concede that he is a "yarlik"—a native. His relation to the Chinese Republic is that of a grudging tax-payer. The only Chinese who ever get an inkling of these facts are the officials appointed to posts in strong Mohammedan communities in Western China and they absorb just enough information to have their self esteem as sons of the privileged race of Han rubbed the wrong way and to cultivate a violent antipathy for a people who have the temerity to establish connections and develop interests outside the self-sufficient Chinese cosmos.

An Old Man of the Mountains

A half century ago this attitude on the part of the Chinese, an attitude of wilful ignorance and contempt, brought on one of the most violent revolutions which China has ever had to suppress. The Mohammedans of Western China swept three provinces clear of non-Mohammedan Chinese and pigs, and many large districts, once thickly populated, are still marked by the charred ruins of great cities.

One might suppose that those in the high places in Peking would have discovered from this that the Mohammedans did not worship pigs and that there were other interesting features about the religion and the traditions of a people who could keep the empire in turmoil for twenty years, that were worthy of attention.

It might be to their advantage, for instance, to know at this time that there is an old man living in an obscure village in the mountains south-west of Pingliangfu, in Western Kansu, who has a devoted following of three or four million people scattered over China from Canton to the borders of Russian Turkestan, and from the Burma border to the Mongol border. It might also interest the Chinese, in view of the fact that the great Mongol rebellion started with a dispute among Kansu sectarians about the orthodox fashion of cutting whiskers, to know that the new cult, of which the old man above mentioned is the head, is regarded by all other Mohammedans as scandalously heterodox and that new traditions and practices are growing up within this cult which are in contravention of some of the most fundamental Mohammedan doctrines.

When the dispute over whiskers in the time of the Emperor Tung Chih started the great conflagration to which reference has been made, China had a large and efficient military organization acting under perfect authority and seasoned in campaigns against the Taiping rebels. Yet it was only after many years of hard campaigning, during which several million lives were lost and an immense amount of treasure expended, that the military genius, Tso Tsung-tang, was able to announce to Peking that western China was again restored to the Empire.

In China's present state of near disintegration, a Moslem rising of this character would sweep over North China like a tide, for there is no force at the command of the Peking Government which could seriously oppose the following of any one military leader in Kansu. This perhaps gives some clue to the political significance of a religious movement like that which is now headed by the venerable Ma Yuan-chang, who lives so obscurely in the mountains near Pingliangfu.

This is the serious aspect of the new religious movement for those who ought to take it seriously, namely the Chinese. For the foreigner, who knows a little about Mohammedanism in other lands, it is exceedingly picturesque. One does not run across a new prophet every day, nor find old men ruling hordes of semi-barbaric fanatics with patriarchal simplicity and at the same time with patriarchal absolutism.

Ma Yuan-chang, to identify him, is more commonly known as Ma Shan-jen, "the Benevolent", otherwise as Ma Kuang-li, or as the Hsia Kou Ta Yeh, which last title was originally given him because of his former residence at Hsiakou, a small mountain community north of Pingliangfu. He is sometimes known as the "New Prophet" but this is heresy. To do the old man justice it must be stated that he makes no claim to titles other than his own name and claims no merit other than that due an assiduous student of the Koran and other Mohammedan literature.

His ancestral home is at a decadent *hsien* (district city) 120 *li* south-east of Lanchowfu in Kansu, where there is still a *mazar*, a holy man's tomb erected to the memory of one of his ancestors.

The New Prophet himself was born in Yunnan, to which province his family had at some time been exiled. He was there married to the daugher of a famous Kansu rebel, who was captured and executed at Ninghsiafu, in Kansu, during the Tung Chih rebellion. This girl's family had been exiled to Yunnan by the triumphant Chinese, but still held some wealth in land in Kansu. At the age of thirty the New Prophet, with his wife, returned to Kansu and settled at the village of Hsiakou, where their respective families held considerable property.

Benevolence Brings Fame

As an ardent Mohammedan student, the young man attracted attention in the community, but his reputation was originally founded upon his lavish charity. The average Mohammedan scholar in illiterate communities makes quite a fat living out of his accomplishments, is well paid as an instructor and as a Koranic reader by all classes of people who hope to obtain vicarious merit through the reading of the scriptures in their households. Ma Yuan-chang, however, gave away much more than he received. Among those who sought him as an instructor or reader, were many poor people and these never went away empty handed.

The Mohammedans are great travellers and among themselves are constantly discussing their religious affairs, so that Ma's reputation for benevolence was soon spread over several provinces, and the number of devotees who sought him out increased from year to year. The time came when his own property and resources were completely exhausted. The wealthy students and pilgrims began to bring him substantial presents which he invariably converted into subsidies for his poorer students and visitors. Many wealthy Mohammedans in Kansu who were inclined to give something to charity for their souls' sake and who had more faith in Ma Yuan-chang's judgment than their own, gave him substantial sums of money to distribute among the poor until his home at Hsiakou became a veritable clearing-house for all charitable efforts. The number of his visitors became so great that his personal followers found it necessary to erect special buildings for their accommodation, and after some years a retreat with all accommodations for travellers, similar to that at Hsiakou, was built at Changchiachuan, the mountain village in which the New Prophet now resides.

A year ago in a little agricultural village near Ninghsiafu, I was talking to several Mohammedan boatmen about the religious affairs of the community and I asked them if there were any *Hadji* among them. They replied that there were some, a few old men, but that very few in their community were inclined to make the pilgrimage these days. "Mecca is a long way off", said one of them, "and *that* prophet has been dead a long time, so now we have a new prophet who is still living and is much nearer at hand, our people find more satisfaction and a great deal less discomfort in going to Changchiachuan than in going all the way to Mecca and Medina." This was such astonishing heresy to one accustomed to hearing Mohammedan *mullahs* dilate upon the unity and purity of Chinese Mohammedanism that it interested me, and although I have never been inspired with any particular desire to make a pilgrimage to the "dead prophet" at Medina, I determined at once that if the opportunity ever came I should certainly visit the living prophet at Changchiachuan. A few months later a friend in Lanchowfu, the provincial capital of Kansu, introduced me to a young man of quiet and unassuming manners, who was, as I afterwards learned, the third son of the New Prophet. At a subsequent meeting I asked him if there was any difficulty about seeing his father and if any introductions were necessary. He told me that at Changchiachuan there was no ceremony and there were no formalities and that he was sure that his father would be only too glad to receive me and to keep me as his guest for any length of time.

In a Mohammedan Community

The village which has become the new Mecca is not on any highway and is inaccessible to all but horsemen or pedestrians. It is nearly 250 miles south-east of Lanchowfu, and about 70 miles south-west of Pingliangfu, an important city in Eastern Kansu. The districts between Lanchowfu and Changchiachuan have something less than the average Mohammedan population. The country is poor, and the people shabby and sordid.

As one travels through rolling, badly cultivated country the landscape, the people, the food and the accommodations are all depressing. The traveller's environment undergoes a marked transformation, however, when he comes within thirty or forty miles of Changchiachuan. He meets blue-capped Mohammedans on every little mountain trail, cultivation is better, the hills are more picturesque and are wooded in spots, accommodations improve, the food sold in wayside eating houses is of a much better quality and the people look clean, well fed, and contented. This is characteristic of the approach to any Mohammedan community but is even more marked in the neighborhood of the new Mecca.

I arrived in a suburb of Changchiachuan just before sunset and was guided to a spacious and comfortable inn by a man to whom I had applied for directions to a Mohammedan hostelry. He remarked when I specified a Mohammedan inn, that there were no others in town and I soon discovered how superfluous it was to ask specially for anything Mohammedan in this religious centre. Not only in the city itself—for it is a walled city—but throughout the country for many miles around, there is not a single non-Mohammedan resident. After establishing myself I noticed in the inn yard several horses with Turkish saddles and trappings and began to take an interest in my fellow guests. I soon found that among the lodgers in this particular inn there were a number of travelling merchants from Andijan, in Russian Turkestan, Chinese who had been expelled beyond Chinese boundaries during the great Mohammedan rebellion, one pilgrim from Canton, one from Kueichow, two from Yunnan, one from

Nanking and a number from all parts of Kansu. Partitions were thin, and throughout the evening I could hear in adjoining compartments vigorous discussions of fine points of doctrine and much gossip about the daily happenings at the New Prophet's sanctuary on the mountain side.

An orthodox Mohammedan from Hochow who had accompanied me from Lanchow, went abroad to inquire about the routine at Ma Yuan-chang's house and to learn the most suitable hour for a visit. In the streets he heard much more discussion of doctrine and he became somewhat scandalized; but greater shocks were in store for him. We learned that the old Prophet's devotions, in which all devout pilgrims made it a point to participate, would probably be over by noon the following morning, and that it would then be convenient to visit him. The following day, therefore, horses and saddles were given an extra polish and my retainer and I set out for the object of pilgrimage, which is on the steep slope of a cultivated hillside, a few miles above the city.

Pilgrims and the New Prophet

Changchiachuan lies in a wide fertile hollow in the hills made by a T-shaped juncture of two valleys through which run streams of clear water fed by the snow from the high mountain ranges to the north. We left the outskirts of the city alone but we soon found ourselves part of an endless procession of Mohammedans of all degrees, some well mounted, others badly mounted, and many with no mounts at all, all advancing with single purposed piety upon the hillside sanctuary. We noted also that there was a counter procession equally unbroken, of returning pilgrims whose mission had been completed, who had prayed with the Hsiakou Ta Yeh and had heard him read the Koran for the benefit of their immortal souls.

No one going or coming was empty handed and it seemed to me that the various bundles and packages which the returning pilgrims carried were as large and heavy, if not heavier, than those of the ascending pilgrims. It was apparent at once that no one visits Ma Yuan-chang empty handed and that no one comes away empty handed. The wealthy pilgrim, riding a fine pacing pony or a sleek mule, goes up the mountain-side with a few shoes of silver done up in his blue handkerchief and comes down with a parcel of melon seeds that were probably donated to the New Prophet by some poverty-stricken devotee who could afford no better present, but who came away with a horse and a new suit of clothes.

On the last steep gradient of the well-trodden path, we met a string of twelve fine mules with empty water casks swinging from their pack-saddles. We learned later that these mules carried water from daylight until dark, from the little stream in the valley to the New Prophet's residence, to supply the needs of the scrupulous pilgrims who performed their ceremonial ablutions before taking part in the New Prophet's prayers.

The buildings which stand upon a series of terraces, rise one above the other, are solidly built and in good condition, though not particularly pretentious.

One enters through an arch in a massive brick tower before which are hung many boards inscribed with large characters testifying to the piety, charity and sanctity of the venerable Ta Yeh. There is a short passageway leading into a labyrinth of horse yards, but there is no gate and no gatekeeper. My retainer and I rode under this arch and found ourselves in a big enclosure out of which opened gates on every side to smaller enclosures within which, my follower took the trouble to ascertain, were hitched 380 saddle horses, the mounts of the more prosperous visitors. Here we dismounted and looked about for attendants or guides who could direct us to the presence of the holy person with whom we hoped to have our interview. There was no one in sight, however, that looked like a menial and we were forced to apply to fellow pilgrims for directions. These men simply instructed us to go on through the inner courts until we found the old man himself. So we tied up our horses, mounted several short flights of stone steps, crossed several small courts and came upon another enclosure in which the pilgrims were standing about in groups of 25 or 30, listening to the open-air discourses of eloquent mullahs who were expounding the true doctrine of right living according to Kōranic law. We stopped for a few minutes to listen to one of these orators and found that the burden of his discourse was pharisaism. He was telling his particular circle of open-mouthed yokels that there were plenty of Mohammedans who wore clean white turbans, performed the five daily prayers with rigid exactitude, married according to the law and were buried according to its precepts, whose daily lives nevertheless made them obnoxious in the sight of all honest men. Having heard this much we climbed another flight of stone steps and found ourselves in a small court upon which faced a mosque and what appeared to be private living quarters. A number of turbaned devotees were scurrying back and forth across the court from room to room but no one paid the slightest attention to us, and several men whom we button-holed and to whom I tried to give a card to be presented to the "Benevolent" Ma, all protested that they were visitors also and that there was nothing for us to do but come in.

A Talk with the "Benevolent" Ma

I found a little man at last with more sense of ceremony, who undertook to forward my strip of card-board. He enlisted several friends in the mission and together they disappeared through a door at the upper end of the court. Almost instantly a tall mullah in a white turban and black whiskers emerged with a smile of welcome and led me into a reception room which was handsomely furnished with heavy Chinese furniture and decorated with much better taste than the reception room of the average Chinese official. At our heels came other turbaned individuals with cakes, tea and an enormous brazier of burning charcoal. I had scarcely found a seat when there was the hum of confusion in the courtyard followed by intense silence and I could see through the window an old man in a white cap, that came down to his eyebrows and his ears, emerge from a door across the court, supported by two mullahs.

It was at this juncture that, to the horror of my orthodox attendant, every man in the courtyard fell upon his knees and prostrated himself before the New Prophet. Half-way across the court the old man, who was much stooped and who walked feebly, straightened himself to his full height, threw off his supporters and marched towards the door with a firm step while several others hastened to pull aside the heavy felt curtains. He shook hands with me, motioned me to a seat at his left hand, and seated himself opposite me in an easy and comfortable manner, entirely lacking in the disquieting rigidity of the average Chinese in a position of power and prestige. He proceeded at once to tell me how glad he was to see me, asked about the condition of the roads and what sort of accommodations I had found on my journey, and apologized for the poor quarters provided by the inn at Changchiachuan. He stated that he had heard of my arrival the night before but that it had been too late for him to ask me to come up to his house. He hoped, however, that I would move my effects into his establishment and spend some time with him. This I took to be casual Chinese courtesy and found the usual excuses for refusing his offer. He protested, however, that he was serious and that it was not the custom for a visitor from remote parts to flit in and out of his community without partaking of his hospitality. He said that if I followed my

schedule, I should not even have a meal with him at his house and that this was unprecedented, it simply was not done in Changchiachuan. I finally managed to evade the subject altogether, and we got upon other topics.

At that time the war interested me more than anything else, particularly the Mohammedan attitude towards it, and I was eager to find out how much a man of Ma Yuan-chang's type would know of European affairs and of the part which other Mohammedan countries were taking in the great conflict. To my surprise I discovered that he had much more recent information and was generally better informed upon these subjects than I was, and had formed opinions which were beyond cavil. He also had decided opinions upon the inter-provincial feud in China and thought that the Chinese people were making a gruesome failure of their experiment in Republicanism. Not that he was averse to Republicanism in the abstract, for the theory of democratic government had made a strong appeal to him many years before, and when Ma An-liang had exerted himself to support the Manchus and to make war upon the Shensi revolutionaries in 1912, Ma Yuan-chang had been an enthusiastic champion of the new idea.

The Height of Hospitality

After perhaps an hour's talk upon such matters of public interest and a good deal of ordinary personal gossip, I decided that the time had arrived for making the customary present and I turned over to the holy man a parcel containing two catties of raisins which I had been nursing throughout the interview. These he received with as much apparent pleasure as though it had been a bag of silver shoes and then insisted upon escorting me through the various courts to the gate. At the last moment I inquired timidly about the possibility of getting a photograph and was told quietly and with some firmness that he had never had one taken and did not care to have one taken, as the practice of making graven images was not strictly in accord with Mohammedan doctrine.

The one distinct impression that I got of Ma Yuan-chang was that he was a thoroughly honest and intelligent old man who made no pretensions whatever to the semi-divine endowments with which he was credited by at least an element in his following. He certainly had dignity, and he spoke Chinese with the dignified simplicity of a cultured man who knows the use of his language but who does not find it necessary to air his erudition in order to make an impression. The remarkable influence and power which are in his hands are probably well placed and are not likely to be abused, for the man is essentially sane with none of the earmarks of the fanatic.

When we returned to Changchiachuan the sky was overcast and a few minutes after our arrival at the inn it rained heavily so that it was impossible for us to depart. We, therefore, prepared to spend another night in the community and arranged to start over the mountain trail for Pingliangfu in the morning.

While we were discussing our plans over a charcoal fire, a sturdy little one-eyed man galloped into the courtyard on a lean pony, slid out of the saddle and shouldered a heavy pair of saddlebags. He made loud inquiries as to my whereabouts and then bustled in upon me, depositing his saddle-bags on the *kang* before me. After several vigorous puffs, he got his breath and began a set speech with which the New Prophet had evidently charged him. He told me how inhospitably I had been received and how the entire community regretted that I had not been able to live on the mountain side with the "Benevolent One." He then described the difficulties of the trail ahead of me and stated that the Ta Yeh, deprived of the privilege of entertaining me under his own roof, wanted to make some provision for my comfort on the road and had, therefore, sent me the few trifles with which he, the bearer, was burdened. He then produced ten bundles in rapid succession, all containing food except one which contained several packs of candles. I made the usual effort to refuse these presents but was met with a stream of protest. The one-eyed emissary was not given to polite controversy so he simply snatched up his saddle bags and departed. In the courtyard he had a whispered conversation with the inn-keeper, tied his horse to a post and went out. In ten minutes he returned and shouted from the court that all my accounts in town had been paid, even to some cigarettes and matches which I had bought in an adjacent shop. When I started to object, he simply remarked that no visitor to Ma Yuan-chang was ever allowed to pay for anything in Changchiachuan, whereupon he climbed into the saddle and charged into the street.

Changchiachuan has no police, but it evidently has a sort of volunteer rural constabulary, for in the evening two stalwart Mohammedans bustled in, one in stained clothes which were marked and scented by close contact with raw sheepskins, and the other in a long silk gown and embroidered shoes of rather a fashionable cut. Each carried an ancient Austrian rifle, clearly stamped 1871, and each was belted with a supply of massive cartridges that go with these antiques.

These worthies announced that they belonged to the "Alarm and Avoid Squad" of the municipality of Changchiachuan, and that the benevolent Ma had told them to accompany me as guides in my journey over the mountains to Pingliangfu. Every traveller in China develops a deep-rooted antipathy to military escorts and makes it his fixed policy to refuse them with decision whenever they are offered, and if one is insistent enough it is usually possible to dispense with this nuisance, but in this case nothing would turn the local volunteers aside from the duty of getting me across the hills. The Ta Yeh had told them to go and they could neither go back and argue with him about it or consider disobeying orders.

The following morning I set out under the escort of these two townsmen, who had found themselves faded military caps and jackets in the meantime, and saw the last of Changchiachuan from the summit of a little spruce-grown hill at the same time that the towering granite peaks which intervened between me and Pingliangfu appeared before me.

The Revision of China's Tariff

In his report on the Trade of China for 1918, Mr. J. F. Oiesen, Statistical Secretary of the Chinese Maritime Customs, says: An event during the year of importance to the Chinese Government and the mercantile community alike was the revision of the Customs Import Tariff. In the autumn of 1917 the Treaty Powers agreed to have the tariff revised and brought up to an effective 5 per cent. The classification of goods in the revised tariff is generally much the same as in the 1902 tariff. The most important alterations are the following: (1) the duty on cotton yarn varies with the count of the yarn, (2) heavy grey shirtings and sheeting with more than 110 threads to the square inch pay more duty than those with 110 threads or less to the inch, (3) iron and steel (excepting tool steel) pay the same duty, (4) the classification of paper has been entirely changed, (5) timber has been divided into rough hewn, sawn, and manufactured. In some cases duty rates have been more than doubled; in others they have been lowered, so it is hard to estimate how much China will gain by the revision. Probably the total increase of revenue to be derived from goods which paid specific duties under the 1902 tariff will be from 30 to 33 per cent.; but under that tariff about 20 per cent. of the goods imported paid *ad valorem* duties. If these goods continue to pay *ad valorem*, no increase of duty will be derived from them, and increases where *ad valorem* duties have been changed into specific duties there will be a loss of revenue, for the values of goods in the years 1912-16—on which the new tariff is based—were lower than they now are. The net gain in import duties which China will make by the new tariff may therefore be estimated at 25 per cent. In 1917 China collected 16 million taels in import duties. On the same volume of trade she should gain about 4 million taels a year by the revision of the tariff.

The Revised Tariff is published in the PORTS OF THE ORIENT issue of the FAR EASTERN REVIEW. On sale, price $3.

Dragon-hunting in China

By J. G. ANDERSSON, Mining Adviser to the Chinese Government

In the December issue, 1915, of the FAR EASTERN REVIEW there appeared an article by J. O'MALLEY IRVIN on "Fossils of the Chinese Dragon" depicturing the supposed discovery of fossil remains of a saurian in a cave near Ichang in the middle Yangtze

Fig. 1.—SKULL OF RHINOCEROS
E. MONGOLIA

valley. These objects were found forming part of the floor of the cave and were described as six or eight stone dragons lying coiled together. The length of the largest specimen was something like 65 feet, and legs as well as the head were distinguished by the observers.

The find was interpreted as probably being the fossil remains of an extinct marine reptile, and special stress was laid upon the assumption that these fossils "may clearly indicate the origin of the Imperial Chinese Dragon" and that the discovery at that moment might be considered as "Good Joss" for the then imminent restoration of the monarchy.

For a trained collector of fossils there appeared in this article many statements which made the fossil nature of the objects in question very doubtful, and the illustrations showing parts of the "dragons" exhibited most striking resemblance to stalagmite formations which are very common in limestone caves.

In order to form a definite opinion in the matter I wrote to Mr. M. HEWLETT, British Consul at Ichang, and asked him kindly to get for me a piece of the supposed fossils. Before I had received the specimen for which I have to thank the obliging courtesy of Mr. HEWLETT, I got another piece of the "dragon" collected by a Chinese officer who had been sent by the Government to Ichang in order to inquire into the matter. Both the specimens thus procured show the characteristic composition and structure of lime stalagmites, and I understand that now probably all interested parties discard the fossil nature of these objects.

This case is of considerable interest as showing in a new and striking instance what is well known to the palæontologist, namely that often inorganic bodies of fanciful shape strongly attract the layman's mind, where again the genuine fossils are mostly inconspicuous objects. It is for instance extremely seldom that the fossil collector discovers a saurian specimen showing the external shape of the reptile's body. Mostly he has to be satisfied with more or less incomplete parts of the skeleton, often only a fragment of the skull or a detached legbone, which require an expert examination before the true nature can be ascertained.

Caves are favourite localities for the fossil hunter, but they do not as a rule contain extinct marine reptiles, but rather a collection of the mammals and birds which lived in the surroundings of the cave at the time when the deposit was formed. In most cases the cave deposits are refuse heaps collected by carnivorous animals, or a still more interesting case by prehistoric man, who inhabited the cave and left the relics of the meals to form a bone deposit covering the floor of the cave. This type of fossil bone occurrence has already yielded valuable contributions to the prehistoric fauna of China, and there are no doubt still hundreds of interesting caves waiting for the spade and knife of the collector, but the prospective explorer ought to keep in mind, that caves where the bed-rock everywhere forms the bottom, are probably barren, and that only those which contain a loam deposit covering the rock floor offer a favorable chance. Moreover, as far as my limited experience goes, it is little use to go to the big famous caves where, often, entire subterraneous temples are constructed, and the virgin state of the cave practically obliterated. The collector will in this case receive little or no guidance from the local population but will have to depend largely upon his own reconnaissance survey of the hill slopes where small and apparently insignificant grottos and rock-shelters may offer excellent opportunities.

An easy chance of obtaining material of fossil mammals is offered by the druggist shops where "dragon bones" and "dragon teeth" are offered for sale as a staple product of the medicine market. It may be said at once that these fossils have nothing whatsoever to do with extinct reptiles. As far as all my experience goes they belong to mammals, partly of tertiary age, partly pleistocene and in some few cases rather recent.

Most likely these fossils are named by the Chinese "dragon bones" and "dragon teeth" simply because they are found buried in the earth layers, and, in many instances, such as the *elephas* and *rhinoceros* teeth, which are of striking size and shape, because they are apparently quite different from the animals now living in these tracts.

There is little probability that these fossils have had anything to do with the rise and development of the dragon myth of Chinese folklore and the dragon design in Chinese art. The Chinese dragon is apparently an allegoric creature of polygenetic nature with the body and limbs of a crocodile, the head of a lion and the horns of a deer. An investigation carried out along the lines followed in the systematic study of vertebrates would probably reveal that there are of the Chinese dragon not only several species but different genera and families as well. In certain aberrant types of this composite monster I have thought it possible to distinguish features probably obtained from the long filamentous appendages at the mouth of the common freshwater fish silurus, from the strange body of the small marine fish hippocampus and from the arms of cephalopoda.

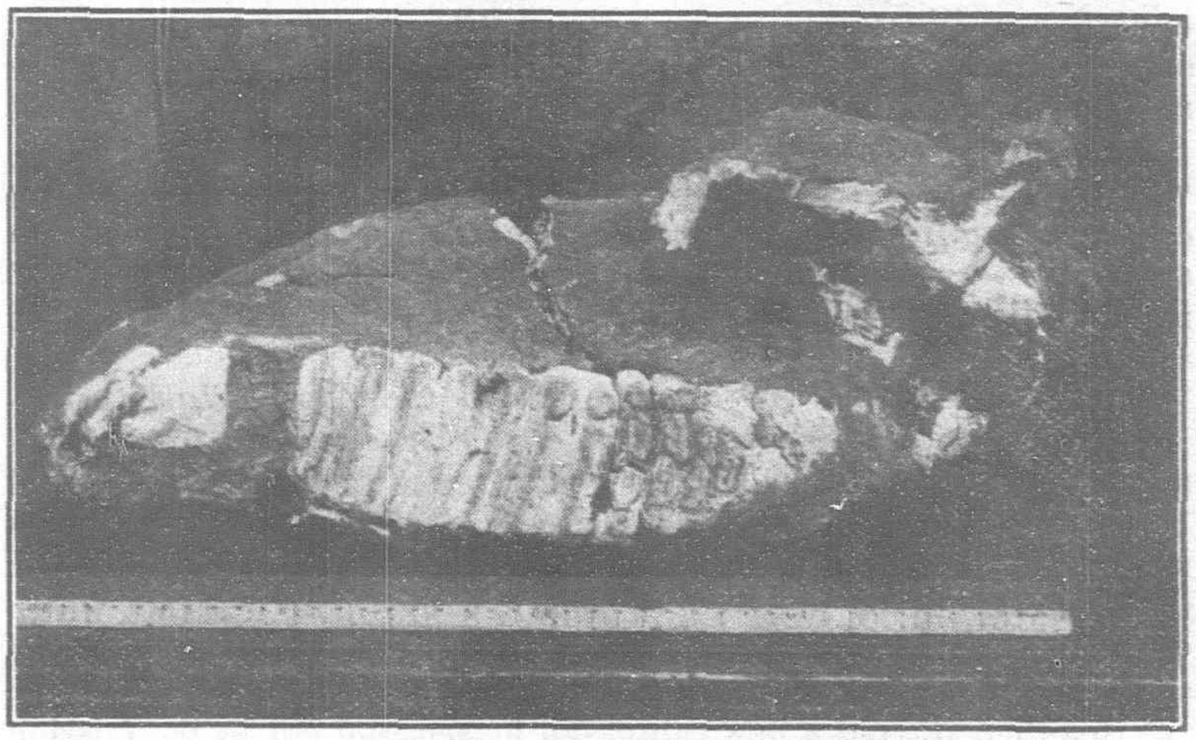


Fig. 2—MOLAR TOOTH OF ELEPHAS
FOUND IN LOESS, HONAN

The dragon teeth and dragon bones which are sold in the Chinese medicine shops are held in high repute as substances of considerable therapeutic value. The teeth are considered to have a much higher healing power than the bones and are correspondingly higher in price. They are administered, after being

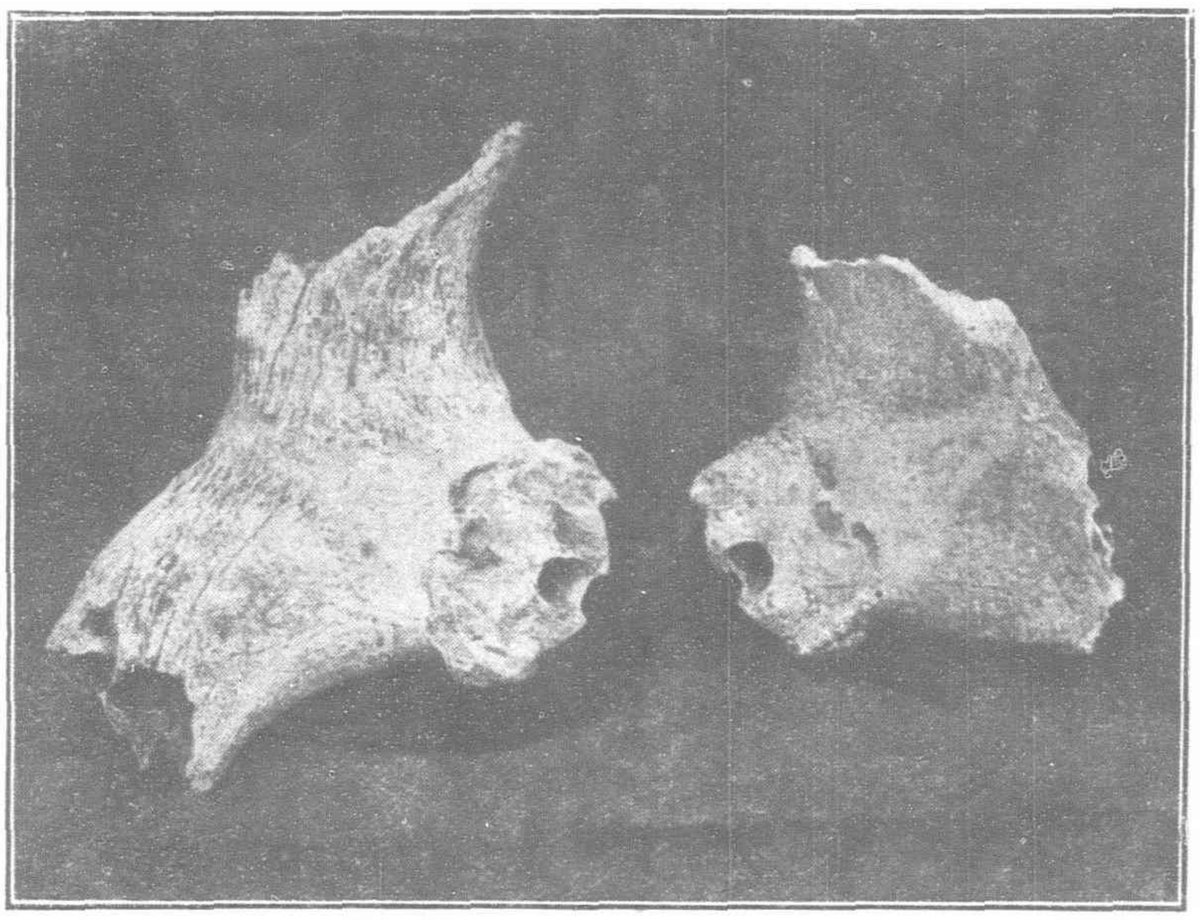


Fig. 3.—SKULLS OF WILD SHEEP
N.W. CHIHLI PROVINCE

crushed to fine powder, in a suitable dose mixed in a cup of tea. I must confess much ignorance as to the nature of the diseases to be cured by this remarkable drug, but I have been told by a local pharmacist here in Peking that it is good for curing troubles in the liver, for absorbing excessive fluids in the body and for medicating insanity.

During the years 1899-1901 extensive collections of these dragon teeth and dragon bones were collected in druggist's shops in Shanghai, Ichang, Tientsin and Peking by a German naturalist Dr. HABERER, and this material was described by the distinguished German vetrebrate palæontologist, MAX SCHLOSSER, who was able to identify not less than 85 species of fossil mammals, the majority of which lived under the tertiary period, a smaller number belonging to the more recent pleistocene time.

SCHLOSSER's monograph is certainly a product of profound and careful scientific research, but the material at his disposal suffered from serious imperfections which radically reduce the usefulness of his work.

As already mentioned, the fossils had been obtained in Chinese druggist's shops, and, in order to prepare them for medical use, the skulls which were certainly in many cases nearly perfect when they were dug out of the ground, had been crushed to small pieces in order to extract the teeth which as mentioned above are considered to have a specially strong healing effect and consequently command a higher price. Thus our knowledge of these fossil mammals, as far as SCHLOSSER'S work goes, is based almost exclusively upon isolated teeth which in the hands of the expert are illustrative to identify the species but cannot of course furnish sufficient evidence to reconstruct the exact dimensions of the whole animal.

Moreover, we know very little about the conditions under which the fossils are found, and in the vast majority of cases even the locality or province from where these fossils originate are only very vaguely known, as the dealers in this kind of merchandise are rather anxious to keep secret the location of the places from where they obtain their goods.

When in 1917 it was decided within the then recently established Geological Survey of China to begin systematic researches on the extinct faunas of China, we first tried to trace the material backwards from the retail medicine dealers to the localities where they had been excavated. But it soon became evident that they only could be followed to some big medicine markets which they had reached after having passed through so many hands that their origin was very much obscured.

We then started a new campaign by sending out to the mission stations all over China, Protestant as well as Catholic, and also to other foreign residents, a circular letter asking for volunteer aid in the extensive research work just started. The missionary has, the whole world over, proved a most devoted and effective collaborator in scientific work, whenever his assistance has been asked for, and the response accorded to the Geological Survey of China was up to the highest standard of this distinguished body of foreigners. This is not the proper place to acknowledge in detail the important and varied services rendered to us by missionaries, but in order to indicate the cordial relations between the Government organs and the missionaries in this scientific enterprise it may be proper to mention that the Minister of Agriculture and Commerce has, in recognition of valuable contributions to the Museum of the Geological Survey, granted special honours to two of our most active co-workers, Père FL. DE PRETER, of the Belgian Mission, Sungshutsweize, Eastern Mongolia, and the Rev. A. BERTRAM LEWIS of the China Inland Mission, Hotsin, South Shansi.

From the mission stations as distributing centres a small circular in Chinese has been spread over considerable areas of Northern China, and it is safe to say that many thousand villagers have read and meditated over our appeal for contributions of dragon bones and our promise to pay suitable reward to the discoverer of such material.

The harvest of specimens and observations at present in our hands is already considerable.

We know in broad lines the composition and distribution of the pliocene fauna contained in the red clays which form one of the most common soils in the northern provinces. This fauna has been named the *hipparion* fauna after one of its most common species, the three-toed horse *hipparion*, a distant ancestral precursor of the *equus* of to-day. Next in importance in this extinct fauna are the *rhinoceroses*, represented by the genera *acceratherium* and *rhinoceros*. The slender and elegant jaws of *antelopes* are also very common, and in the second line follow some species of the genus *sus*, carnivorous mammals such as *hyenas*, *rodents*, etc. These ancient animals evidently enjoyed a genial climate, strolling in herds over the even grass lands or swarming to their hearts' delight in the ponds and streams of the sheltered fertile valleys.

A somewhat younger fauna, probably late pliocene or early pleistocene, has been discovered in certain river deposits. Besides numerous freshwater molluscs these beds have yielded remains of an elephas, not yet specifically identified.

A sediment, widely distributed all over northern China and most conspicuous because of its tendency to form deep gullies and precipitous cliffs is the loess, the yellow earth or *huang t'o* of the Chinese. Everything points to the conclusion that this soil, which locally attains a thickness of more than a hundred feet, was formed during an arid and cold climate, largely by means of aeolian deposition. Probably the loess of Northern

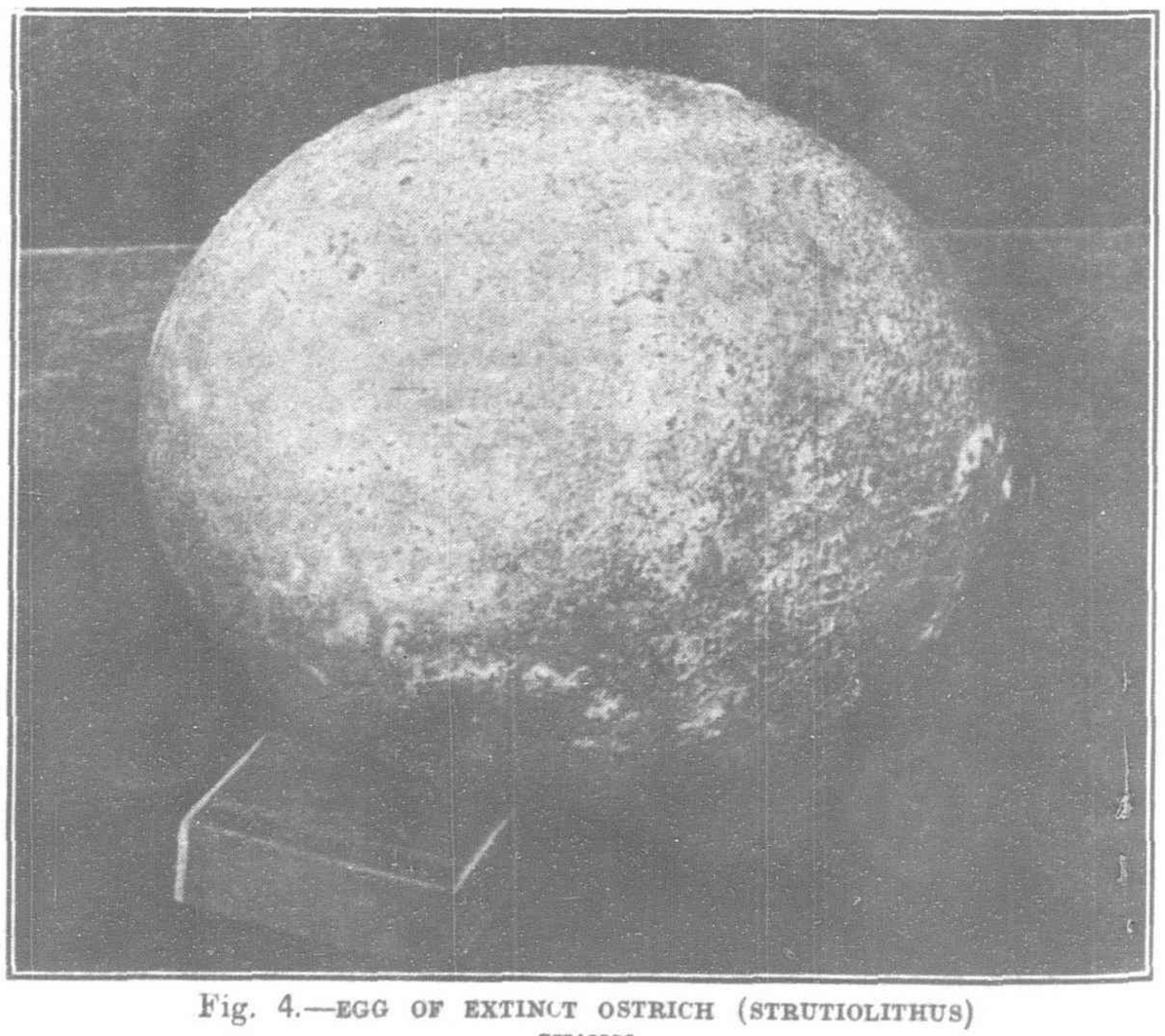


Fig. 4.—EGG OF EXTINCT OSTRICH (STRUTIOLITHUS)
SHANSI

China is a steppe facies of the great ice age of Europe and North America. Fossil mammals are rare in the loess and the specimens are isolated and fragmentary. Pieces of tusks and molar teeth of an *elephant*, nearly related to the mammoth have been unearthed in several localities, and some beautiful skulls of rhinoceros may also belong to the genuine loess.

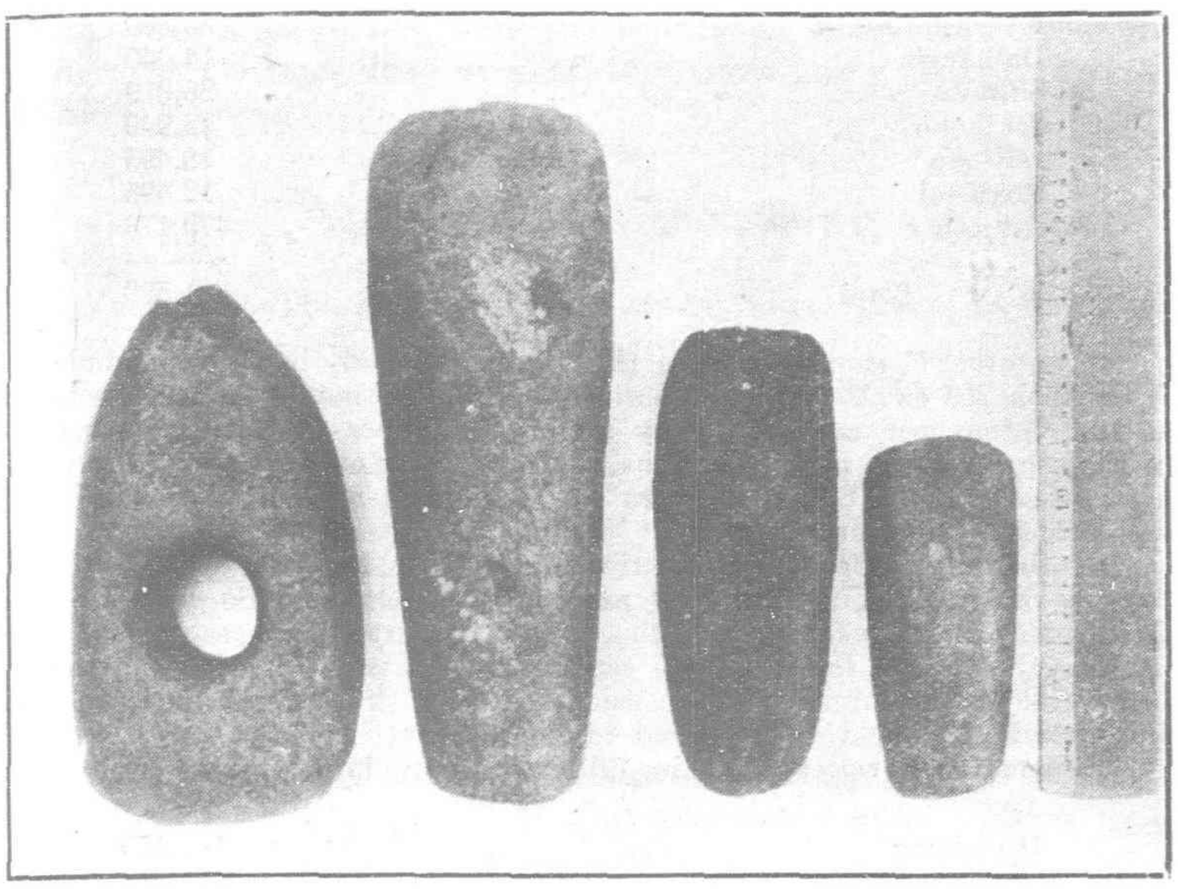


Fig. 5.—STONE HAMMER AND STONE CHISEL
E. MONGOLIA

In redeposited fluviatile loess and gravels we find a fauna nearly resembling that of to-day and containing amongst other forms the big deer, the *wapiti*, and the *wild sheep*. Numerous skulls of the latter have been collected in the plains of Hsuanhuahsien and Lungkuanhsien of north-western Chihli from where the wild sheep have now entirely disappeared.

A most remarkable fossil, in fact one of the most fascinating objects to be collected in these tracts, are the gigantic eggs of an extinct *bird*. Such eggs have certainly been unearthed in hundreds in Northern China, something like 15 specimens being at present well-known to the writer. An egg of this kind was brought to the United States in 1896 by the Rev JAMES H. ROBERTS and was described by C. R. EASTMAN under the name *struthiolithus chersonensis*. The bird probably belonged to the ostrich group, and its size can be approximately estimated from the fact that the fossil eggs measure 173-186 millimeters in length, when compared with 140-160 millimeters for recent ostrich eggs. We do not know with full certainty the age of this extinct ostrich, but it seems most probable that the eggs come from the loess. This question is one of the many inviting problems waiting for continued research, and still more imperative is it to get some parts of the now unknown skeleton, as only then can the systematic position of this big bird be definitely settled.

* * *

I have often been asked by interested friends and layman co-workers about the age of the fossils found in the different earth-layers of Northern China. The question is a rather unwelcome one as the method of the geologist is to record, not in absolute figures but in relations of one group of fossils or one group of sediments to others. From China we have no data allowing even a rough calculation of absolute figures, but it can be mentioned that an American author has estimated the time elapsed since the beginning of the pliocene, the age of the hipparion fauna to one million and a half of years, and that the duration of the ice age has been put to half a million years.

In France, the classical ground of palæolithic research, the history of mankind has been traced backwards with admirable fulness through a number of succeeding progressive cultures for a period of somewhat more than 100,000 years. If the still more primitive homo heidelbergensis and the pithecanthropus of Java are taken into consideration, it may be possible to trace the early history of man backwards something like half a million years.*

The history of the Chinese race dates back some 5,000 to 6,000 years. Previous to that time the history of man in these tracts is practically unknown.

In SCHLOSSER'S collection there was a tooth of an *anthropoid mammal*, and a Japanese scientist MATSUMOTO has recently described from Honan a fossil *human sacrum* which offers striking affinity to the sacrum of the palæolithic *homo neanderthalensis* of Western Europe. But these data are at present too isolated and uncertain to afford any reliable basis for a record of the early history of man in North China.

A small number of stone implements of neolithic type found in widely different parts of China, Chihli, Shensi, Szechuan, Yunnan, Chinese Turkestan and Mongolia have been described by various authors. Recently much new material has been forwarded in LAUFER'S admirable treatise on Chinese Jade and in two important papers by the Japanese archæologist TORII on Neolithic implements from South Manchuria and Eastern Mongolia Now we have taken up this line of research, and a beautiful collection of stone implements from Manchuria, Eastern Mongolia and North-western Chihli is at present in my hands.

It seems to be a current opinion that the Chinese are originally immigrants in their present home-country, that they migrated from an earlier home in the interior of the continent and that they carried with them at the time of their arrival to the present China a considerably developed civilization. LAUFER seems to be of opinion that they had left behind them the stone stage, and he expressly points out that they were in the possession of metals and bronze implements when they settled in Shantung, where, however, a number of stone implements have been collected by Mr. S. COULING. Consequently it is reasonable to assume that these implements did not originate from the Chinese invaders but have emanated from the hands of earlier aboriginal tribes.

In the same way the stone implements collected by JOHN ANDERSON and J. COGGIN BROWN in Yunnan are, by LAUFER, ascribed to the non-Chinese culture-group, possibly the Shan tribe, and according to the detailed investigations carried out by TORII the numerous stone implements found in Eastern Mongolia were manufactured by the Tung-Hu, the ancestors of the present Mongols.

The majority of the polished stone implements found in China are evidently of no high antiquity and can in the terms of Chinese records not be called pre-historic. The flint arrow-

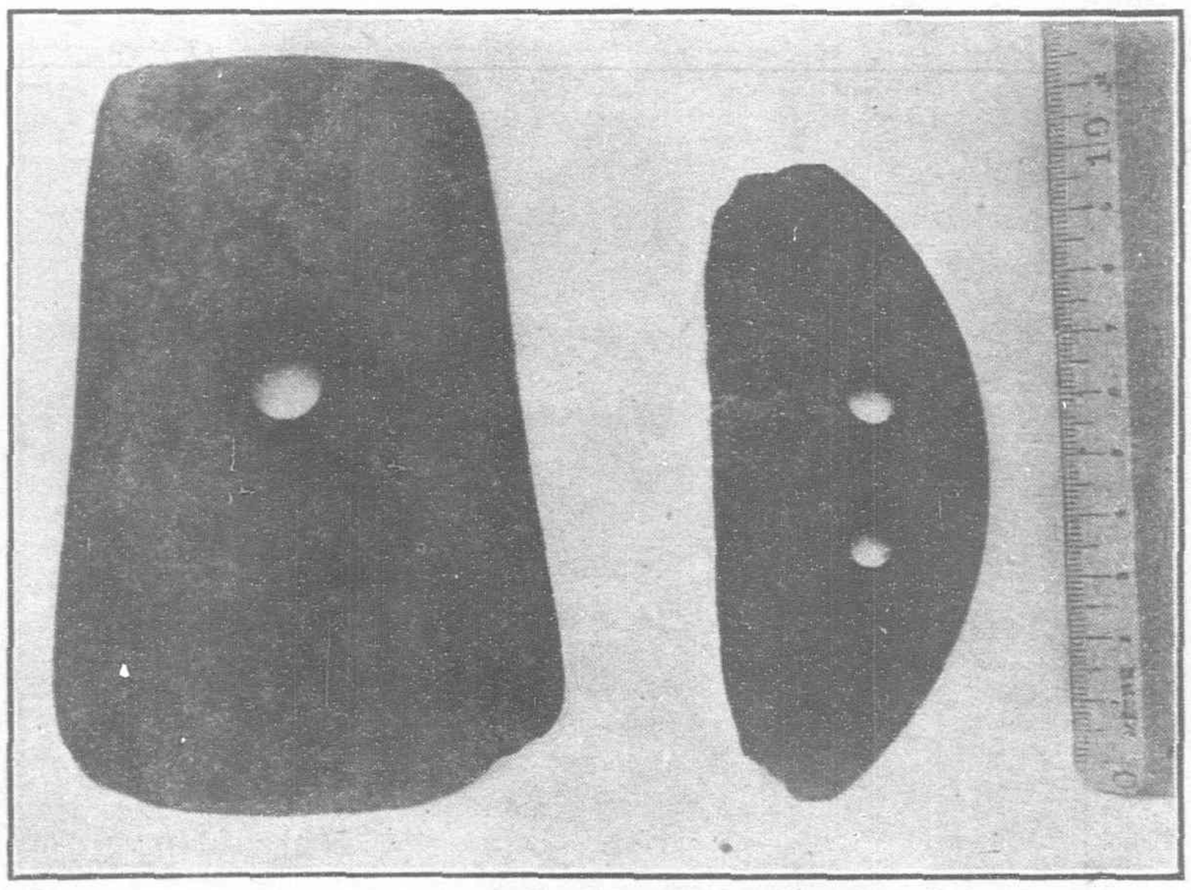


Fig. 6.—STONE CHISEL AND STONE KNIFE
E. MONGOLIA

heads collected by ARMAND DAVID in Mongolia were found together with metal instruments. In Eastern Mongolia coins from the second Han Dynasty have, by TORII, been found together with stone implements and ancient pottery. Consequently the stone implements at present known ought to be assigned, not so much to Pre-Chinese peoples as rather to frontier tribes of lower civilization living at the outskirts of the growing empire where metals were already in extensive use.

* H. F. Osborn : Men of the old Stone Age. Third Edition. New York, 1918, pp. 40-41.

The above rapid sketch may suffice to show that at present very little is actually known about the late geological history and the early archæology of China. We are just able to catch a glimpse of the magnificent dynasties of *rhinoceroses* and *elephants* who reigned here in late pliocene and early peistocene times, but so far we have not even found the slightest trace of the early primitive human tribes who fought the huge beasts, made chase upon the herds of the gigantic ostrich and finally settled down to till the vast plains and the fertile valleys.

This article is written as an appeal to the scientifically interested public to assist the Geological Survey of China in its researches along the lines here indicated.

The objects we are hunting are mostly inconspicuous and fragmentary and afford nothing of the attraction attached to the curios, such as porcelain, bronze and jade objects. Even to the biologist the fossils found in this country offer little of novelty. Nothing like the startling discoveries of past decades in North and South America can be expected here, where the fossil mammals all belong to well-known types and even the species are in many cases already described. But to the student of old continents and past climates these broken bones often reveal stories of noticeable interest.

It is not the discovery of a mammoth-tooth itself that offers the opportunity to the scientist, but rather the circumstances under which the find was made, the kind of soil in which the tooth was imbedded, the details of the whole section exposed and the topographical features of the surroundings. Therefore it is imperative that finds of this kind be reported to an organized and resourceful body of experts who can undertake a detailed examination of the locality where a fossil skull or a human artifact has been unearthed.

Any communication on these matters addressed to *The Geological Survey of China, Ministry of Agriculture and Commerce, Peking*, will be highly apreciated and meet a prompt reply from the Directors of the Survey or from the writer of this article. To every prospective volunteer co-worker we will be glad to send our circulars in Chinese to be distributed amongst the local population. It goes without saying that we are prepared to pay all the expenses incurred and to give suitable monetary reward to the natives who have found the objects forwarded to our institute.

Formosa Coal Industry

The output of coal by the principal mines in Formosa in 1918 was, according to the "Japan Chronicle," as follows :—

	Tons.
Shikyakutei	125,913
Keelung Coal Mine	68,619
Kyunem No. 1	18,445
Kyunem No. 2	24,369
Daikanrin	14,040
Shinno	26,019
Sekikoko	13,949
Daisoko	18,493
Roku-sai	12,495
All other	479,178
Total	801,520

"*All other*" represent more than half the total, but they include no fewer than 268 small mines and in no case was the output in 1918 as much as 10,000 tons per annum. They are mostly mines that have sprung up in the course of the past 18 months, and owe their existence to the present high price of coal. Some may turn out to be good mines, but the majority will probably be short-lived.

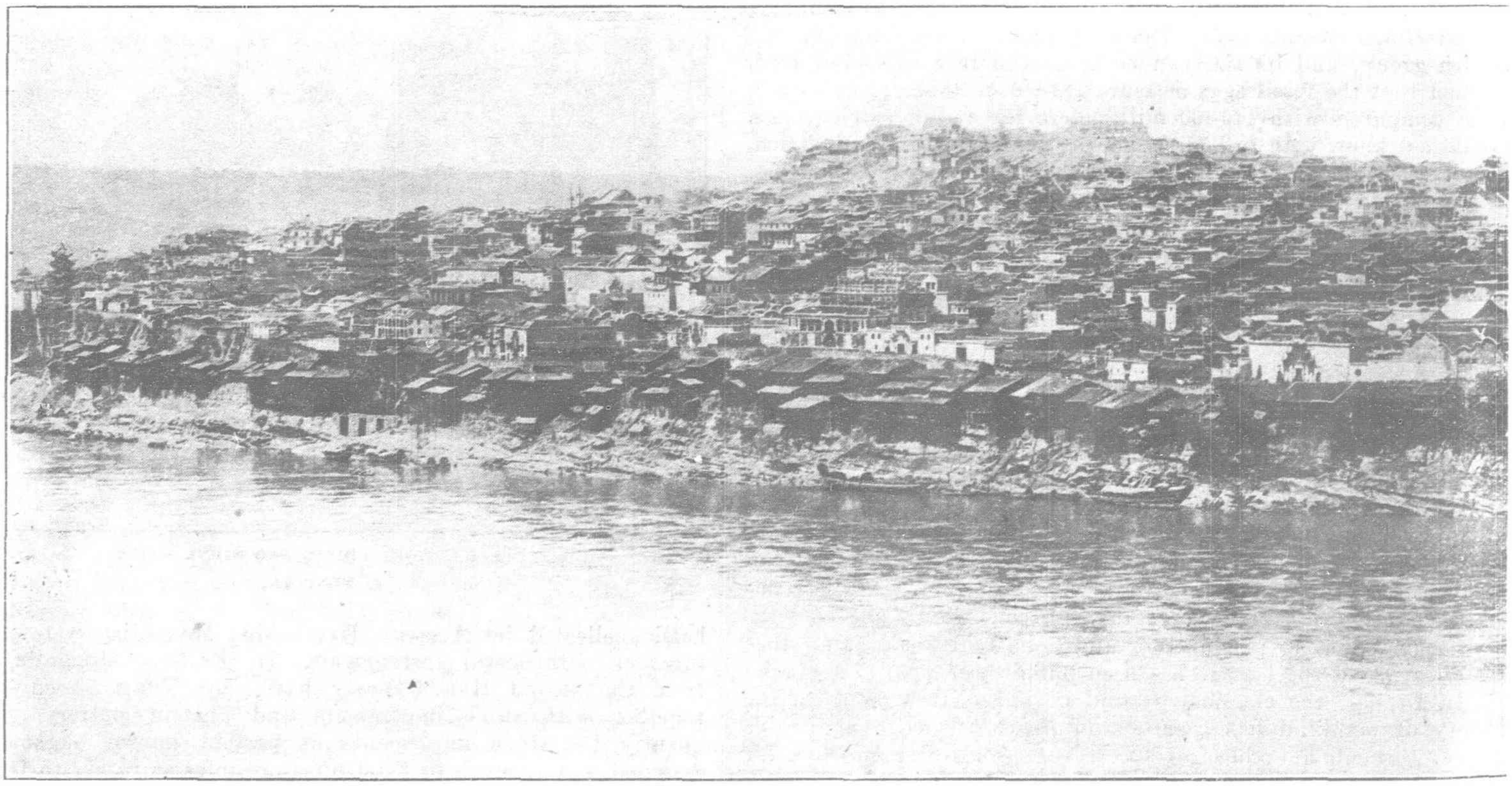
Of the mines mentioned, nearly all are near Keelung. Good quality coal at present costs about Y.19 per ton at Keelung. So far only one British ship has bunkered there this year. Hitherto, Formosan mines have in general suffered from lack of capital, but Mitsui's are now interested in several of the larger and a considerable number of small ones, so that this drawback should be remedied to some extent.

Exports of Formosan coal in 1918 were as follows :—

	Tons.
Hongkong	186,473
China	88,682
Philippines Is.	6,801
Other countries	130
Total	282,086

These were valued at Y.2,893,754—an increase of 29,000 tons and Y.1,108,895 as compared with 1917. The increase in value is striking and shows how the price has risen in the past year. This rise in price has been even more pronounced in 1919, as the exports for the first five months of this year amounted to 170,390 tons, valued at Y.2,543,856.

Mining methods at most of the coal mines in Formosa are very primitive and little machinery is used. The system is generally to dig the coal out along the outcrop as far as possible. Now, however, some of the large mines are getting deeper, and with the entry of Mitsui's more progressive measures may be adopted.



CHUNGKING, THE GREAT TRADING

Chungking is the great river port of Szechuan. Here the produce of a large hinterland is accumulated for export, trade now being conducted with the outer world through junks and a few light draft steamers which brave

Culled from the Customs Reports

The following notes on matters of interest in the various Treaty Ports are taken from the reports of the various Commissioners of Customs for the year 1918, now being issued by the Chinese Maritime Customs:—

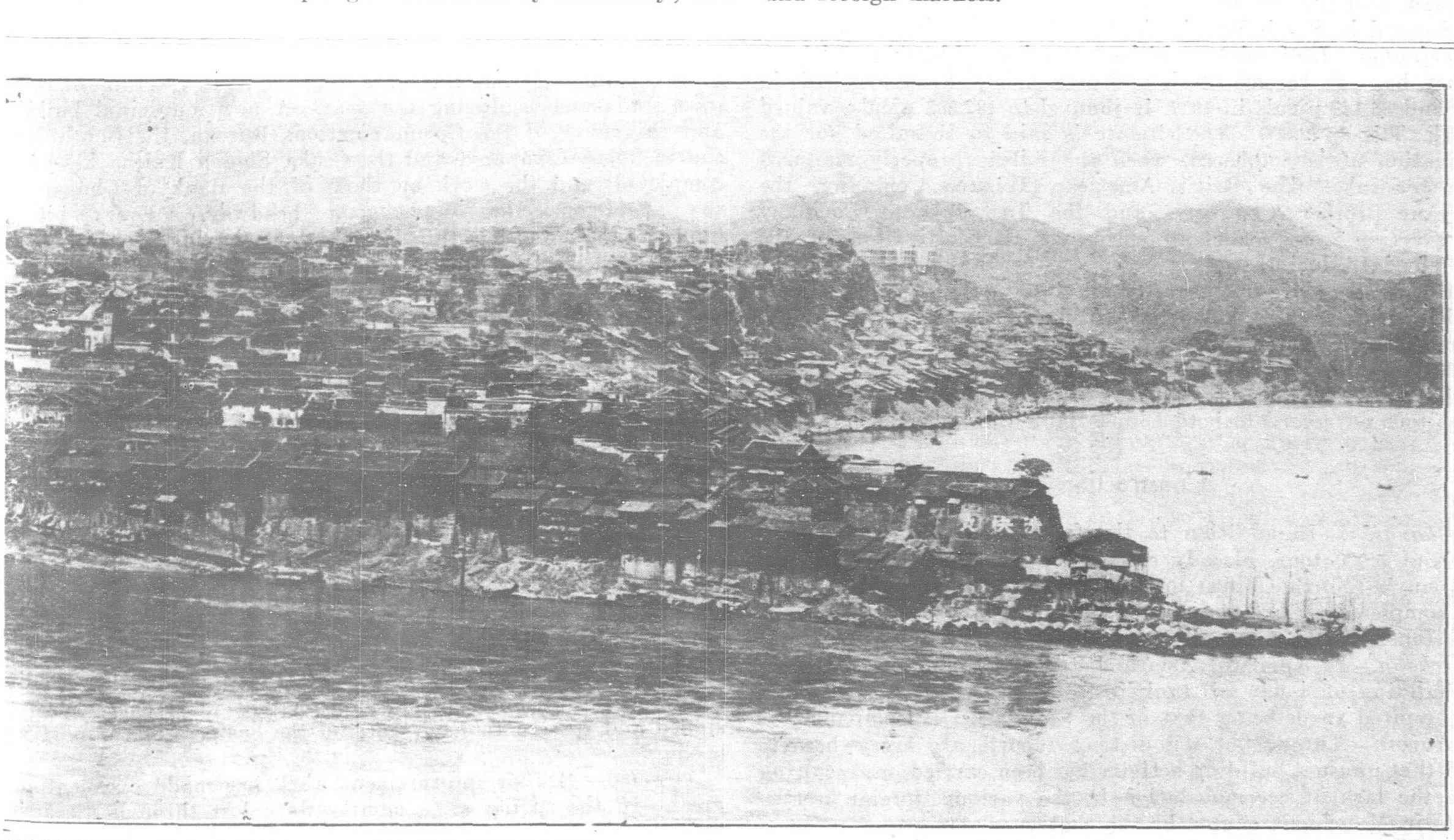
Agriculture and Afforestation

Nanking.—The excellent work of the Agricultural Department of the University of Nanking during 1918 deserves the serious attention of all who are interested in the trade and welfare of China, seeing that, as Professor Reisner remarks, "70 to 85 per cent. of China's population is rural—their interests are tied up in agriculture." Scientific teaching has been given, and experimental work has been carried on in sericulture, forestry, improvement of soils, farm crops, etc. The University already has the largest collection of different mulberry trees in China. Its forest nurseries contain specimens of 123 different species of native and foreign trees. It has carried out variety tests with about 50 varieties of wheat, 75 varieties of rice, 50 different kinds of cotton, etc. The staff has also translated into Chinese and published text-books on agriculture and kindred subjects. I believe that the agricultural population of this province would benefit very much were agricultural shows held at Nanking periodically, and facilities given to enable farmers to exhibit the best specimens of their crops and to visit the University and Government experimental farms for instruction and advice.

Kiukiang.—As evidencing the interest which is being taken in the improvement and development of the China tea trade in Kiukiang district, there are three institutions worthy of mention: firstly, the Anhwei Tea Planting Farm, an experimental and testing farm working under the auspices of the Ministry of Commerce and Agriculture; secondly, the Ningchow Tea Plantations, Ltd., the first Chinese estate adopting manufacture by machinery; and lastly, the China Model Tea Estate, Ltd., which is also using inproved methods in cultivation and manufacture.

Hunchun.—An afforestation bureau has been established for the control and protection of the national forests in the Hunchun and Wangching districts.

Wanhsien.—Wood oil had been famed for its purity and accepted without strict examination by local oil hongs as well as by foreign firms in Hankow, but since the rise in price in the spring of 1917 adulteration commenced and continued to grow from bad to worse until, in September of 1918, not a single basket of pure oil could be obtained on the market, and about 2,000 piculs of unsaleable oil had accumulated on the hands of the dealers, which could not be disposed of other than for local consumption at a heavy loss. In the Trade Report for 1917 it was stated that before delivery is taken by local oil export hongs wood oil is invariably examined by professional "examiners," who depend entirely on their experience of testing it by color, touch and odor. Since local merchants who had overstimated the reliability of this primitive method, suffered heavy losses as a result, through either the rejection of the entire shipment or its acceptance at a heavy discount by foreign firms in Hankow during the summer, a more scientific method of testing the oil has been adopted. The new method of testing was introduced by a Japanese firm in the spring, at considerable risk of incurring a boycott on account of its strictness. This precaution on the part of the local buyers, together with the fall in price and the strict steps taken by the Chamber of Commerce in imposing heavy fines on the sellers of adulterated oil, has produced a very salutary effect, and adulterated oil has gradually disappeared from the local market. It is earnestly hoped that a rise of price in future will not allure local and up-country dealers to adopt the shortsighted policy of adulteration, and that Wanhsien oil will soon regain and maintain its former good reputation on coast and foreign markets.



CENTRE OF SZECHUAN PROVINCE

the rapids below Chungking and tranship their cargo to river vessels of deeper draft at Ichang. One of the steamers on the Chungking run is shown in the illustration on page 716.

Tientsin.—The figures for cotton reveal a strong revival in this important export trade of the port. The season's crop was exceptionally good in yield, and in quality was of a fineness and softness not produced for years. Raw cotton imported into Tientsin under *sanlientan* from the interior for the last four months of each year, in 1916 amounted to 130,438 pieuls; in 1917, to 78,651 piculs, and in 1918, to 382,586 piculs; and 326,030 piculs were exported from Tientsin in 1918 as compared with 158,192 piculs for 1917 and 282,499 piculs for 1916.

Mukden.—Much indigo was planted, and carts laden with paste were common sights in the autumn. The crop was full and well matured, giving an excellent paste, which sold at retail at about 70 "small coin" cents, say, 41 cents (silver) a catty. However, the dyers sigh for the artificial dye, which, they say, is more uniform, requires less care and labor to use, and is not liable to injury from frost.

The tobacco crop is reported excellent, especially near Kirin, and the fine autumn favored the drying and maturing of the leaf. One of our largest local factories, the British Cigarette Factory, uses much native leaf, although by no means all Manchurian. The factory worked all the year, and overtime during part of it.

Dairen.—The South Manchuria Sugar Manufacturing Company has shown a satisfactory business return for the second working year of its existence. Although the quantity of the best crop did not come up to expectations owing to the damage done by the flood, no less than 20,000 piculs of beet sugar was manufactured during the year. For marketing it was mixed with cane sugar to suit the taste of native consumers, but the company aims at gradually developing the taste for pure beet sugar. The chief market for the company's product was in the districts north of Mukden, Changchun, Harbin, etc., and a certain amount of it found its way to Siberia. Beet cultivation was carried on chiefly in the districts around Liaoyang and Mukden, and the company is endeavoring to secure cultivation contracts for 50,000 *mow* for the next year.

Sugar beets have thriven during the year, proving that the soil and climate of Manchuria are suitable for their cultivation. The cultivation of the indigo plant in the Tiehling and Kaiyuan districts has been greatly fostered by the shortage of imported dye-stuff, and the putput of indigo supplied a goodly portion of the demand in South Manchuria.

Tsingtao.—Leaf tobacco, hitherto an inconsiderable article as export, has now become staple and permanent. From 11 piculs in 1913 and 35,149 piculs in 1917, it jumped to 137,383 piculs, valued at Hk. Tls. 2,772,390. The climate is said to be suited for the cultivation of leaf tobacco, when the soil is properly manured with beancake. The British-American Tobacco Company, the Nanyang Brothers Company, and the Toa Tobacco Company are exerting every effort to encourage the cultivation of the plant by introducing seeds.

Unprecedentedly fine crops of all staple agricultural products of the province were harvested. A fine spring crop of wheat, unknown for the last 30 years, was collected, estimated at as much as 300 per cent. above the normal.

General.—The tea trade of China in 1918 was the most calamitous on record to both Chinese and European dealers.

Construction

Changsha.—In addition to the four tanks, with a capacity of about 5,000 tons, already erected at the Asiatic Petroleum Company's (North China) installation at Sanchaki, a new tank was completed toward the end of 1918, with a capacity of about 4,000 tons.

Ichang.—In April the Asiatic Petroleum Company completed the building of a new oil tank installation, which is situated a few hundred yards below that of the Standard Oil Company.

Harbin.—Throughout the district reports are everywhere to hand that unusual building activity has been carried on, resulting from the lack of accommodation in the various foreign settlements in Manchuria caused by the continuous stream of refugees from Blagovestchensk, Habarovsk, and Transbaikal towns. Numerous ramshackle buildings have sprung up with mushroom-like growth in New Town, Harbin, and Taheiho. Extensive building operations have also taken place in the Chinese city of Fukiatien and its extension Szekiatze; in this latter place especially millions of roubles have been spent on reclaiming and filling in land. A people's park has been laid out and excellent roads constructed, connecting this part of the town with the main thoroughfares of Harbin. Everything seems to point to an increased prosperity of the Chinese population, which has more than trebled itself in the last few years. A large Chinese theatre in foreign style under foreign supervision and capable of seating 4,000 spectators is in process of construction within this area, and practically every open plot of ground has been stacked with bricks and materials in expectation of intensive building in the spring.

Mukden.—Many buildings, both business premises and residences were put up on the Japanese Concession during the year. They are mostly of red brick and look well. In the old city a few shops rebuilt their fronts and faced them with glazed tiles, some white and some colored. These shop-fronts are a striking relief from the grimy grey brick.

Dairen.—The Harbour construction and improvement work undertaken by the South Manchuria Railway Company progressed satisfactorily. The work on the North and West Breakwaters, which was commenced in 1908, was finished in March, 1918. This completes all the three breakwaters, which measure in all 13,121 feet and enclose the harbor in semi-circular form, with a water area inside of 810 acres. The Third (New) Pier, the most important work of the harbor construction, made good headway, 15.5 per cent. of the work being finished during the year, and will be completed by March 1920. The reconstruction of the Second (Main) Pier wall at the north and west sides to make it perpendicular was commenced in April, and the work progressed to the extent of 5 per cent. The whole work will be finished in two years' time. The reclamation of the shore and bunding to the east of the First (East) Pier, which was commenced in 1910, was completed in April, 1918, and the extensive tract of land obtained is being used as an open storage ground for export goods. The progress of dredging during the year was 1.4 per cent. This work was commenced in 1908 and is expected to be finished by April 1920. The warehouse accommodation has been augmented by the construction of seven large cargo-sheds, covering in all an area of 11,320 *tsubo* (2,830 square yards). The construction of the wharf office building, which was described in the 1916 report, progressed well, and the brickwork reached the fourth floor.

Commercial and industrial development in Dairen called forth a building boom, and more than 600 houses were built in the town and suburbs during the year. A new municipal building and the offices of the Communications Bureau, the South Manchuria Sugar Company, and the Osaka Shosen Kaisha have been completed, and the work on those of the Bank of Chosen and the wharf office has made good headway. Every bit of land available for building sites in town having been taken up, several new tracts of land for residential and industrial quarters are being opened up both in town as well as in the suburbs.

Chinwangtao.—Building activity has been in evidence; two Japanese shipping companies whose steamers call in regularly for coal, the Shosho Yoko and the Mitsubishi Kaisha, have erected suitable buildings for offices and staff some 100 yards north of the Customs compound. On the north side of the Tao below the Bluff a police sub-station has been built. Several houses on the East Beach have been completely overhauled and better and more extensive accommodation is now available for summer residents.

The wooden mast of the wireless station at the Japanese camp has been replaced by a steel one, 312 feet high; communication is easily carried on with Peking and Tokio.

Tientsin.—Though local enterprise still continued to be handicapped throughout the year by the difficulty of obtaining supplies from abroad, there was great activity in the building line, and indications are not wanting that when peace has been signed and foreign tonnage released the business of the port will boom.

Chefoo.—Harbor improvement work has made excellent progress. In the spring some months were lost through discussion between the contractors and the Commission as to the steps necessary to make good the damage from the storm of August, 1917, to ensure the mole from further damage while under construction, and as to by whom the cost of such work should be paid. It was decided that the damaged part of the breakwater

could be made good and that certain additions should be made to the plans as calculated to add strength and facilitate construction, and the latter effect has certainly resulted. The decision as to the mole was that it could not be constructed with reasonable safety simultaneously with the breakwater if sand was to be used as heartening to the mound above low water, that the slope should be easier and rubble be used in place of sand above high water, and that the facing should be of heavier stones than called for by specification. The Commission agreed to pay Hk. Tls. 110,000 towards the extra cost and to extend the term of construction to January, 1921. The stronger work and probably reduced cost of maintenance were held to be well worth the extra expense. In justice to those who devised the scheme and passed the plans, it must be remembered that the aim was not to construct ideal works, but such works as might be expected to give the desired lasting results at a cost within the power of the port. The finance question has happily been settled by the higher authorities authorizing, with the approval of the Diplomatic Body, the issue from the Customs revenue of 18 monthly instalments, totalling Hk. Tls. 1,927,436.62, to meet the balance due under the contract, such sums to be gradually repaid, with interest at 5 per cent. per annum, from the surtax collection. The possession of funds has greatly strengthened and eased the position of the Commission. The harbor improvement scheme will supply a long-needed protection for shipping and should greatly benefit the port, but besides, Chefoo must have the Weihsien Railway to link it up with its hinterland or its trade will be deflected to other ports.

Wanhsien.—Owing to unsettled conditions there was no noteworthy building enterprise during the year, with the exception of the establishment of the Standard Oil Company's tank, godown, and residence at Chiyuto, which were completed in August.

Tsingtao.—The low depressed ground between the signal station hill and the mission schools, where a small brickyard stood formerly, and the basin lying to the west of it have been filled in or levelled: a part has been turned into a garden; many houses have been built, and the spot near the Junk harbor has now become a business centre. The new buildings for the girls' school, the postoffice and the market place have cost about Yen 600,000. The roads newly laid out extend to some five miles.

Industrial

Ichang.—The Kwang Ming Electric Light Company extended its business in 1918, and a branch plant for supplying electric current to clients living outside the city is under construction.

Changsha.—The building of the Hunan No. 1 Government Cotton Mill, a palatial office building and machinery shops, was completed early in the year. The mill was leased to two of the leading merchants of Changsha for a term of fifteen years for Changsha paper Tls. 630,000, and its name was changed to the Hua Shih Cotton Mill. It was hoped work, giving employment to some 3,000 people, would have started in the early autumn but up to the end of 1918 there was no sign of activity.

Kiukiang.—During 1918 electric light was installed in Kiukiang city and suburbs.

Hunchun.—An attempt at industrial development has been made by the Chinese firm Kuang Shun Ho, which in the spring started manufacturing cotton goods with Japanese wooden looms; the output, however, has never exceeded 8 p'i per day.

Antung.—Timber merchants had a prosperous year. The Yalu Timber Company, anticipating heavy demands, made special efforts to bring down as large supplies of timber as they could, and their efforts, thanks to the favorable condition of the river for rafting operations, were fully rewarded. The total number of rafts which arrived during the year was 6,833, as against 4,989 in 1917. In spite of the large quantities of timber thus placed on the market, trade was very brisk throughout the year, owing to Antung remaining the main source of supply for all North China ports as well as for Manchurian and Korean markets. Owners of sawmills enlarged their plants and made big profits.

In the Chinese city several new silk filatures were erected, and there was a marked increase in the number of reel-stands. The total export of wild raw silk, filature and non-filature, together reached the high mark of 9,000 piculs during 1918, which is the point to which the total export of the similar commodity from Chefoo in 1917 diminished. At the end of the year under review we found that the total number of reel-stands in operation was 10,562, those at the end of the previous year being 4,500.

Dairen.—Industrial activity in Manchuria and the Kwantung Territory and enormous expansion of Manchuria-Japan and Manchurian-American trade, fostered by the war, were again the chief factors which constituted the great prosperity of Dairen's trade in 1918, the gross and net values of which reached 189 million Haikwan taels and 173 million Haikwan taels respectively, as against the corresponding totals of 1917, viz., 150 million taels and 140 million taels.

The industrial development of South Manchuria which has been remarkable in the past few years, has been further fostered by the wants which made themselves felt and could not be supplied from outside, owing to the restrictions the war imposed upon international commerce. An indication of it is furnished by the fact that during 1918 joint-stock companies and partnerships of Japanese and Sino-Japanese management newly established in Manchuria and the Kwantung territory numbered 108, with an aggregate authorized capital of over 40 million gold yen, of which 64—representing a total capital of 20 million yen—belonged to Dairen. The enterprises promoted by these concerns were: banking; financing of industries; import and export business; shipping and carrying trade; warehousing; iron-casting and machine construction; electrical gear making; building material manufacturing; brick and tile making; crucible making; fabrication of tarpaulin, waterproof cloth, and rope; chemical industries such as the preparation of dyes, potassium compounds, and barium compounds, soap making; extraction of vegetable oils by benzine; soy-manufacturing; beer brewing; bean-noodle and starch making; paper-making; cigarette making; hemp-weaving; woollen goods manufacturing; timber-felling; saw-milling; mining; etc. By far the most important of these enterprises is probably the projected woollen goods manufacture on a large scale to turn to good account the rich supply of wool in Mongolia and Manchuria. It is to be undertaken by the Manchuria-Mongolia Woollen Weaving Company of which the Oriental Development Company is the moving spirit. The company is to be capitalized at 10 million yen, and will establish its main factory at Mukden and a branch factory at Tientsin.

Newchwang.—Wild raw silk shows a decrease, but waste silk increased by over 2,000 piculs, due to the establishment of the Mei Lung Filature, an American enterprise.

Chinwangtao.—The electric light works which the Kailan Mining Administration inaugurated on April 6, 1918, have proved a great success; 18 lamps of 1,000 candle-power each now light up the breakwater and pier to excellent effect. Other lamps have been erected on the Bluff and along the track from the breakwater to the Peking-Mukden Railway Station; the foreign dwellings are also supplied with electricity, and an extension to the native village is in contemplation. The scheme would do credit to many a larger place and should be accepted as an augury of the port's development.

The water supply system which already fed the railways has been extended by the construction of a large reservoir on the Bluff. The water is pumped from the Tangho River, a distance of five miles, into this reservoir, whence it gravitates into standpipes on the breakwater and pier, and steamers can thus obtain good fresh water direct from the hydrant at each berth at the rate of 35 tons an hour; water is also distributed to some of the foreign houses.

The export of cement rose to 503,913 piculs, most of which was despatched to the Dutch Indies and Manila for military uses.

Chungking.—The large bristle-washing factories in Chungking received their regular orders, but were unable to fill them all. They are reported to have experienced a profitable year's working, chiefly owing to the abnormally high prices paid for cargo in London and New York. The small factories, however, are stated to have lost money on the year's working.

Tientsin.—The carpet industry was practically at a standstill for the entire year, owing to American embargoes.

Two new factories have been established, a canvas factory and a cotton mill. The former is capable of turning out about a million yards of canvas a year. Most of the year's output was taken up by the Chinese military authorities. The cotton mill commenced operations only late in the season. At present

there are 25,000 spindles installed, which can produce 60,000 piculs of yarn a year. More machinery has been ordered from America, and when this arrives the output will be doubled. The Yu Yuan Cotton Mill, alluded to in the last report, turned out 8,400 bales of yarn during the nine months it was working; but owing to a defect in the boiler only 15,000 spindles could be worked. However, toward the end of the year 20,000 spindles were in use.

Chefoo.—The competition of silk made by machinery in Japan grows ever more deadly, as the Antung raw material passes more and more to Japanese and the economical Chinese labour has to compete with machinery. Local filatures are more and more giving up to establish in Antung, and, unless strong steps are taken to increase the local production of cocoons, it is to be feared that this most important industry of Shantung, developed almost entirely by foreign efforts, will fast follow other articles of China's trade down-hill. Local Chinese recognize that the case is extremely serious and are aiming to meet it.

The Electric Light Company added to its plant, but is still unable to meet demands.

Tsingtao.—The Okura Egg Yolk and Albumen Factory began to place their output on the market in February, 1918, and the Taisei Egg Yolk and Albumen Factory was expected to be in working order in March, 1919.

An entirely new trade created by the Japanese occupation of Tsingtao is the trade in softwood timber. It is Chinese *kiri*—*Paulownia fortunei*,—slightly different from Japanese *Paulownia imperialis*, which is a most precious and widely used wood in Japan. It is white in color with the specific gravity of 0.21, and its special quality is that it is not affected by climatic conditions. From large and old *kiri*, furniture, such as wardrobes, chests of drawers, tables, etc., are manufactured, and small ones cut into the shape of bricks and are manufactured into wooden clogs. which are worn by Japanese of both sexes and all ages.

Mining

Harbin.—Several layers of bituminous coal, similar to the Fushun variety, were laid bare in the course of agricultural operations at Hanghsien, situated on the Heilungkiang side of the Sungari, opposite Kiamusze, but owing to transport difficulties necessitating the construction of a railway to the water's edge, none of this coal has so far found its way to the Harbin market.

Mukden.—The development of the Fushun Collieries and the various ancillary enterprises continued steadily during 1918. The Anshan Ironworks, the Mond Gas Factory, etc., are now all under one management and in the name of the railway company. It was expected that the iron works furnaces would be lighted during the year 1918, but difficulties in the way of procuring certain necessaries postponed it. Smelting will probably begin in 1919. The yield of ore is said to be improving as the mines develop. The Mond Gasworks are fulfilling expectations. The production of ammonia sulphate in 1918 amounted to 5,000 tons; the Chinese do not yet purchase it for fertilising. The output of coal at the collieries was 2,451 000 tons, an excess over the figures for 1917 of 301,000 tons. The pits worked full time all the year, although there was a shortage of labor and sickness among the employes. The coal goes south as far as Singapore. The first-hand selling price is settled by the company on the basis of distance from Mukden as a centre, and during 1918, as in 1917, the basic prices were Gold Yen 10.20 for lump and Gold Yen 8.20 for dust, but at Dairen bunker coal was advanced Yen 3 a ton in December. Most of the small native mines in these provinces have now been closed down, and as the demand for coal was not fully met by the yield of the Fushun mines, and there were transport difficulties as well, there arose complaints of scarcity of fuel.

Dairen.—Numerous coal and iron mines have been opened up and the working of magnesite, asbestos, talc, clay, barite, and natural soda also flourished. The coal fields of Sinkiu, in the Fowsin district, in Chihli province, which are reported to be as extensive as those of Fushun and to contain coal of similar quality, are to be opened up by a Sino-Japanese concern under the style of Tahsin Company, and preparations for a trial working are being pushed forward. The work on the South Manchurian Railway Company's Anshan Iron Foundry progressed satisfactorily, although somewhat delayed owing to the difficulty of getting certain materials ordered from abroad, and the first smelting furnace, with a capacity of 75,000 tons of pig iron a year, will be ready for use in the coming spring. The second furnace, which will be finished next summer, will complete the construction programme of the first period, with an annual output of iron of 150,000 tons. In the second and third periods the foundry will be expanded until its output reaches 500,000 tons. Although a further expansion to a million tons is possible, a half-million tons will be the maximum output for some years to come, and the company's plan is first to manufacture rails and other materials for its own use and supply the public with the surplus.

Newchwang.—Coal exports rose from 31,000 to 58,000 tons, more than half going to Japan. The scarcity of coal was felt seriously at the port during the winter season, and small dealers were asking high prices for their stocks. This shortage is due to non-arrival of Kaiping and Chinchow products and to the insufficiency of cars supplied by the South Manchurian Railway.

The Ching-Feng Railway sent a mining engineer towards the end of the year to make further investigation into the Peipiao coal-field. Peipiao is situated 70 miles to the north-west of Chinchow, a city on the Peking-Mukden Railway, and about 37 miles from Ichow, which is on the direct route to Chaoyang, Petuna, Taonan or Tsitsihar. It has already been proved to contain a 20-foot seam of the best coal in North China; it is true bituminous and possesses 30 per cent. better steaming properties than the Kailan coal. If a branch line were built to Peipiao, it would not depend alone on coal freights, as Ichow is the centre of a rich grain district. The development of the Peipiao coal-fields would necessitate the opening of Hulutao. It may be remembered (*vide* Trade Reports for 1911 and 1912) that the opening of this port had been determined on prior to the Revolution and that during a year's working a railway was laid to Hulutao, connecting it with the Peking-Mukden Railway at Lienshan, a distance of 7½ miles, and residences, offices, an hotel, coolie barracks, etc., were constructed. Unfortunately, work was suspended, and the scheme has since been in abeyance. With the completion of the breakwater a depth of 30 feet at low tide would be available for steamers and the port would be less handicapped by ice than is Chinwangtao, owing to the greater rise and fall of tide. The buildings, being of ferro-concrete, are practically as good as when erected, and the railway is still in running order, though naturally in need of much repair.

Chinwangtao.—A total of 822,149 tons of coal was shipped to foreign countries: 446,543 tons to Japan (a large proportion dust and slack for making coke); 136,810 tons to Hongkong and 132,856 tons to Manila, in both cases chiefly for naval use; and the remainder to Korea, Singapore and other ports. Coastwise shipments aggregated 597,783 tons, of which 385,565 tons went to Shanghai and the remainder to 15 other ports.

Railways

Changsha.—Owing to the disturbance in the province, it was not until September, 1918, that the long-delayed opening of the Hankow-Changsha section of the Canton-Hankow Railway to traffic took place. In addition to local services there is one through train running daily between this port and Wuchang. Few civilians, however, avail themselves of this facility of travel, as the railway is mostly used for the movement of troops.

Yochow.—The difficulty in connexion with the foundations of the Canton-Hankow Railway bridge at Nantsingkang, near Yochow city, mentioned in the Trade Report for 1917, was temporarily overcome, and through passenger traffic between Wuchang and Changsha was inaugurated on the 16th September with a train each way each day supplied with first, second, and third class carriages. In November the bridge trouble, owing to the action of the high water, again asserted itself, and trains were unable to cross the structure for the space of a month or more. It is now hoped that the defectiveness has been entirely conquered. The line is becoming increasingly popular with travellers, and the retail dealers are already more often receiving their consignments by train than by water.

Nanking.—As stated in previous reports, the bulk of the exports from this port proceed by railway to Shanghai and other stations on the Shanghai-Nanking Railway. The volume of this

trade is constantly growing. Towards the latter part of the year it was estimated that the Shanghai-Nanking Railway carried away fully 3,500 tons of cargo daily, and even then could not take all the freight offering. There is a growing tendency now to ship cargo destined for distant ports by steamer, which is but natural, and I expect further developments in this direction; when other railways possess termini at Nanking it will be still more necessary to make further use of shipping to carry away the freights offering, even when the Shanghai-Nanking Railway track is doubled.

Through the courtesy of the traffic managers of the Shanghai-Nanking and Tientsin-Pukow Railways I am enabled to supply general particulars of goods traffic by rail during the year 1918, which are as follows:—

	Shanghai-Nanking Railway.		Tientsin-Pukow Railway.	
	Outward. Piculs.	Inward. Piculs.	Outward. Piculs.	Inward. Piculs.
Agricultural products ...	8,825,322	807,292	2,827,406	12,370,966
Animal products ...	323,529	13,186	34	79,094
Mineral products ...	506,205	132,289	254,604	7,943,678
Forest products	72,097	239,373	353,858	—
Manufactures	313,358	852,273	958,608	26,342
Total	10,041,011	2,044,413	4,394,510	20,420,080

I estimate the total value of the rail-borne trade, inwards and outwards, at roughly Hk. Tls. 141,000,000, the share of the Shanghai-Nanking Railway being estimated at Hk. Tls. 65,000,000 and that of the Tientsin-Pukow Railway at Hk. Tls. 76,000,000. From other sources I have been supplied with an estimate of the value of the junk-borne trade, which is reckoned to be worth about Hk. Tls. 9,000,000. Reference to the Trade Report for 1917 shows that goods traffic on the Shanghai-Nanking Railway has increased very markedly, 12,085,000 piculs being transported in 1918, against 9,813,000 piculs in 1917. Progress on the Tientsin-Pukow Railway, I understand, has been equally satisfactory; agricultural products and mineral products together represent more than 20,000,000 piculs. No new work has been carried out in railway construction during the year, but it is probable that the construction of the Ning-Hsiang and Pu-Hsin Railways will not be long deferred once peace has been declared in Europe, and the importance of Nanking-Pukow as a railway and shipping centre will increase enormously.

Chinkiang.—There is a steady decrease in the number of water-borne passengers, and the convenience of railway transport is becoming better understood and is more fully availed of. The Shanghai-Nanking Railway Company has kindly supplied the following figures of railway passengers during the year: inwards, 530,262; outwards, 391,927.

Kiukiang.—A project is on foot to build a cable tramway to connect the foothills beyond Lienhwatung with the Kuling Gap, and this, if carried out, will enable visitors to reach the health resort of Kuling in about one hour from the time of leaving Kiukiang.

Ichang.—The Ichang-Nanto section of the Ichang-Kweichow Railway was resurveyed in October, 1918, by a party of Chinese engineers under Mr. C. J. Carroll, chief engineer of the Szechuan-Hankow Railway, with a view to revert to the original plan of discovering a shorter line to follow the Yangtze River as near its banks as possible instead of diverging farther inland as proposed by Mr. R. W. Randolph, the former engineer-in-chief. The 25 *li* of railroad from Ichang to Siaokita, which were completed and opened to traffic in 1911, proved a failure, so that the rails on that line have been removed and shipped to Hankow for the use of other Government railways and the sleepers sold for firewood locally.

Lungchingtsun.—The survey of the proposed route for the trolley line from Huining to Lungchingtsun was completed in December, 1918. Contrary to expectations, the line will not pass through the Hwohulikow Pass, but will reach Lungchingtsun by a circuitous route viâ Hwaikingkai, Pataohotze and Tungshingyung. Construction will commence in April as soon as the frost is out of the ground, and it is hoped that the line will be open for traffic by the end of October, 1919.

Mukden.—On June 1, 1918, the South Manchuria Railway began the issue of through tickets from its stations to points on the Shihpingkai-Chengchiatung line. The traffic on this line is rapidly increasing, and extension into Mongolia is contemplated in the near future. Rates of freight and passenger fares were increased 50 per cent. on the Kirin-Changchun line from July, in order to meet the loss on depreciated paper currency. In November the charges were placed on a silver basis. The S.M.R. Express that used to run weekly in connection with the through train along the Siberian Railway ceased to operate from May 12.

Antung.—The beneficent activities of the South Manchuria Railway Company were once again shown in the provision of a large primary school for Antung, which was opened on October 6, 1918.

Tientsin.—The railways in North China were run under difficulties during the year. The military operations against the Southern provinces necessitated the conveyance of many thousands of soldiers, which utilised a great deal of rolling stock which would otherwise have been more profitably employed. Brigandage on that portion of the Tientsin-Pukow line which passes through Shantung also seriously interfered with traffic. In spite of these adverse conditions the revenues of the Peking-Mukden and the Tientsin-Pukow lines showed increases over those of the previous year.

The effect of the floods experienced during 1917 and the lawlessness existing on certain sections of the Tientsin-Pukow line have caused a slight check on the hitherto rising percentage of cargo carried by rail, the latter being 3 per cent. less than in 1917. The figures are: railways, 65 per cent.; waterways, 33 per cent.; and land routes, 2 per cent.

Mining

Changsha.—The shipments of coal and coke, output of the Pingsiang Colliery, show a decrease for 1918 of 238,829 and 120,647 tons respectively, below those of 1917. The military operations around Siangtan and Chuchow, the principal shipping points, and scarcity of labor chiefly at the colliery, are exclusively responsible for this falling off.

With the enormous demand for antimony regulus during 1918 came the setting up of a considerable number of small and cheap native "plants" for smelting purposes. They consist merely of a coke-kiln fire which collects the fumes in clay-built chambers, draught being supplied by hand-driven fans through wooden ventilators. The production per furnace as compared with that of the steam power driven plants, with cast iron collecting chambers, is exceedingly small, but the competition of these native "plants" in production cannot be overlooked when it is realised that they cost next to nothing to erect and how cheaply they can be worked by coolie labor. Towards the end of 1918 only the richest of the antimony mines were able to work, and this at a loss, for the price of antimony declined rapidly with the advent of the termination of hostilities in Europe, when regulus was offering at Hankow Tls. 60 per ton. This represents one-twentieth the price of the metal easily obtainable in 1915, one-fifteenth that in 1916, and one-fifth that in 1917. Up to the signing of the armistice tungsten was disposed of at prices ranging from $1,000 to $1,300 per ton. It fell to $700 per ton with no buyers, and a source of taxation was closed to the rapacious military who levied additional dues on the mines and the ore. Lead fell from Hankow Tls. 11 to Tls. 7 on the appearance on the market of Australian lead.

Wuhu.—The coal mine at Chihchowfu, a small town on the right bank of the river 90 miles above Wuhu, worked by native methods, which formerly produced 90 tons of coal a day, only produced 30 tons a day during the year, although the number of shafts was increased from five to 13.

The Yu Fan Iron Mining Company completed a mountain railway—about 5 miles long—from their mines to the river bank at Tikiang, a small port 30 miles up river from Wuhu, and they commenced to ship ore in October.

Kiukiang.—The export of coal during 1918 totalled 5,235 tons. The production throughout the province is on the increase: there are 11 companies operating the various mines, of which the following, with their estimated monthly output, are among the principal: Loping, 2,500 tons; Poyang, 800 tons; Yukan, 1,500 tons; Tienho, 1,200 tons; Chian, 800 tons.

Transportation

Lungchingtsun.—All cargo has to be conveyed across the Tumen River by ferry during ten months of the year. In addition to the time and labor spent in unloading cargo, transporting it across the river and reloading it again, the passage of the ferry is affected by the freshets in the summer, when only two or three trips a day are made, and again in November and December, when trade is very brisk, the presence of drift ice makes the crossing difficult and limits the number of trips to about six a day. Pony-carts cross the river and draw their loads to the Huining railway station, but an ordinance prohibits the ingress of oxen into Korea, so that two sets of ox-carts are necessary to transport cargo over the 40 miles that separate Huining from Lungchingtsun.

Hunchun.—Although improved land and sea communications in Northern Korea are of good augury for the further development of trade in that direction, the natural outlet for this district remains, none the less, Vladivostok and its neighboring country. Only 40 miles of a road fairly practicable for a good half of the year separate Hunchun from Possiet Bay, whence a weekly steamer service is kept by the Russian Volunteer Fleet to Vladivostok, the journey lasting from eight to ten hours. Should the long-advocated railway ever be constructed a rich and fertile hinterland would be brought to very close touch with Russia's greatest seaport in the Far East.

Tientsin.—A considerable improvement has to be recorded in the number of vessels plying on the Grand Canal, Hsiho, Peiho, and Tungho. Navigation in these rivers was far better than in the previous year, 21,419 more vessels having entered and 21,651 cleared, the total tonnage represented being 1,528,017 and 1,526,705 respectively. It is greatly to be hoped that the commission appointed to study the question of improving the waterways of Chihli will succeed in its undertaking and that some scheme will be evolved which will facilitate the carriage of water-borne cargo which has suffered so severely of recent years.

Chungking.—The presence of armed brigands along the reaches of the Upper Yangtze, made transport to Chungking a question not only of difficulty but of risk and heavy expense for military escorts when shipping by junk, and the risk and heavy escort expenses of supplying the markets in the interior proved insurmountable and resulted in greatly decreased importations.

Miscellaneous

Lungkow.—The principal developments of interest in the district have been those nominally in connection with protection. The district is divided into *hsiang*, in each of which a sort of vigilance committee is appointed, known as the Pao Wei T'uan. Each committee has some 15 or 20 gendarmes at its command, and for the whole *hsien* there is a further body of 200 men, recruited under local guarantee. These men are getting some training, and it is their duty to protect the district from *t'u-fei* (brigands). An addition has been made to the land tax to cover the expenses of this undertaking. The Pao Wei T'uan are pretty well hated because of their exactions. In one place west of the city of Hwang-hsien one of these bodies, before it fully understood the limits of its jurisdiction, pronounced and executed sentence of death. Properly conducted, the system ought to accomplish much good.

General.—Metals rose from a value of Hk. Tls. 25,137,741 to Hk. Tls. 37,637,111, the most notable increases being under the following heads: copper ingots and slabs from Japan for the use of the mints rose from 27,658 to 121,408 piculs, valued respectively Hk. Tls. 1,135,660 and Hk. Tls. 4,272,924; iron bars, from 229,955 to 388,308 piculs; iron pipes and tubes, from 186,067 to 285,166 piculs; iron rails, from 158,333 to 330,014 piculs; steel, bamboo, bars, etc., from 75,637 to 193,088 piculs; tinned plates, from 238,930 to 315,736 piculs; galvanized iron sheets, from 26,527 to 69,742 piculs; and galvanized iron wire, from 38,875 to 80,593 piculs. The chief decreases were in iron nails, rivets, old iron, and tin in slabs.

A painful reminder of the civil war in China is found in the vastly increased arrivals of munitions of war, which advanced from Hk. Tls. 166,532 to Hk. Tls. 14,093,042. Building activity gave bricks and tiles a rise from 7,070,302 to 8,138,341 pieces.

Machinery for textile industries increased from Hk. Tls. 1,216,153 to Hk. Tls. 1,650,074. Agricultural, propelling, and other machinery all showed considerable advance.

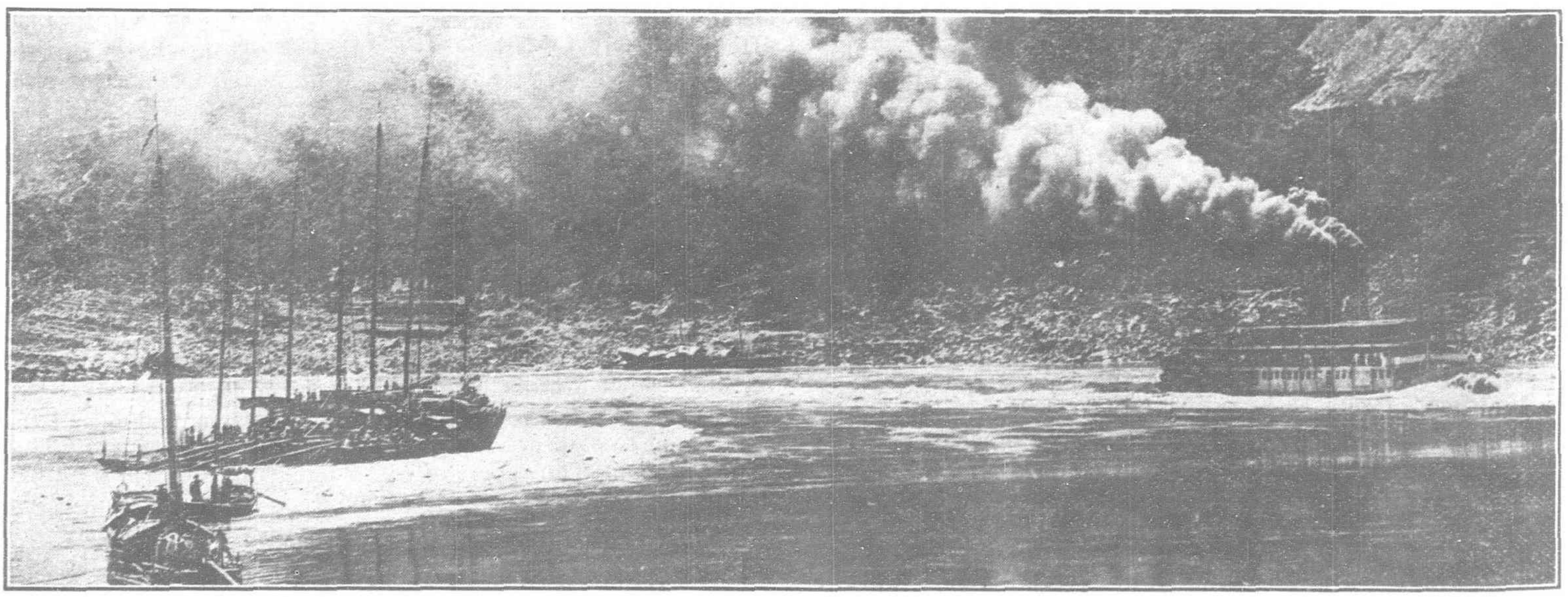
Chungking.—The Commissioner mentions one or two interesting facts connected with trade which might be repeated, one being of decided encouragement to Chinese industry, to wit, that "foreign drills have now been practically supplanted by the Shanghai factory drills, which are durable and well dyed and are in considerable demand in the making of uniforms."

Japanese cotton yarn is gradually being superseded in this market by the Chinese yarn.

Competition among buyers of bristles was very keen during the latter half of the year owing to Japanese buyers purchasing freely, apparently regardless of price.

Nutgalls increased over 25 per cent. Most of the shipments went to Hankow and there were mixed with inferior qualities from Honan and Hunan, as foreign markets have been up to the present unwilling to pay the extra price necessary to secure the genuine Szechuan quality, and would appear to be satisfied with the lower grade of mixed cargo obtained from Hankow.

Turmeric showed a falling off of about 61 per cent. This commodity is produced principally at Kienwei, Maliuchang and surrounding districts along the banks of the main river below Kiating. The lands were seriously damaged by floods during the summer of 1917, but are gradually being brought back into cultivation.

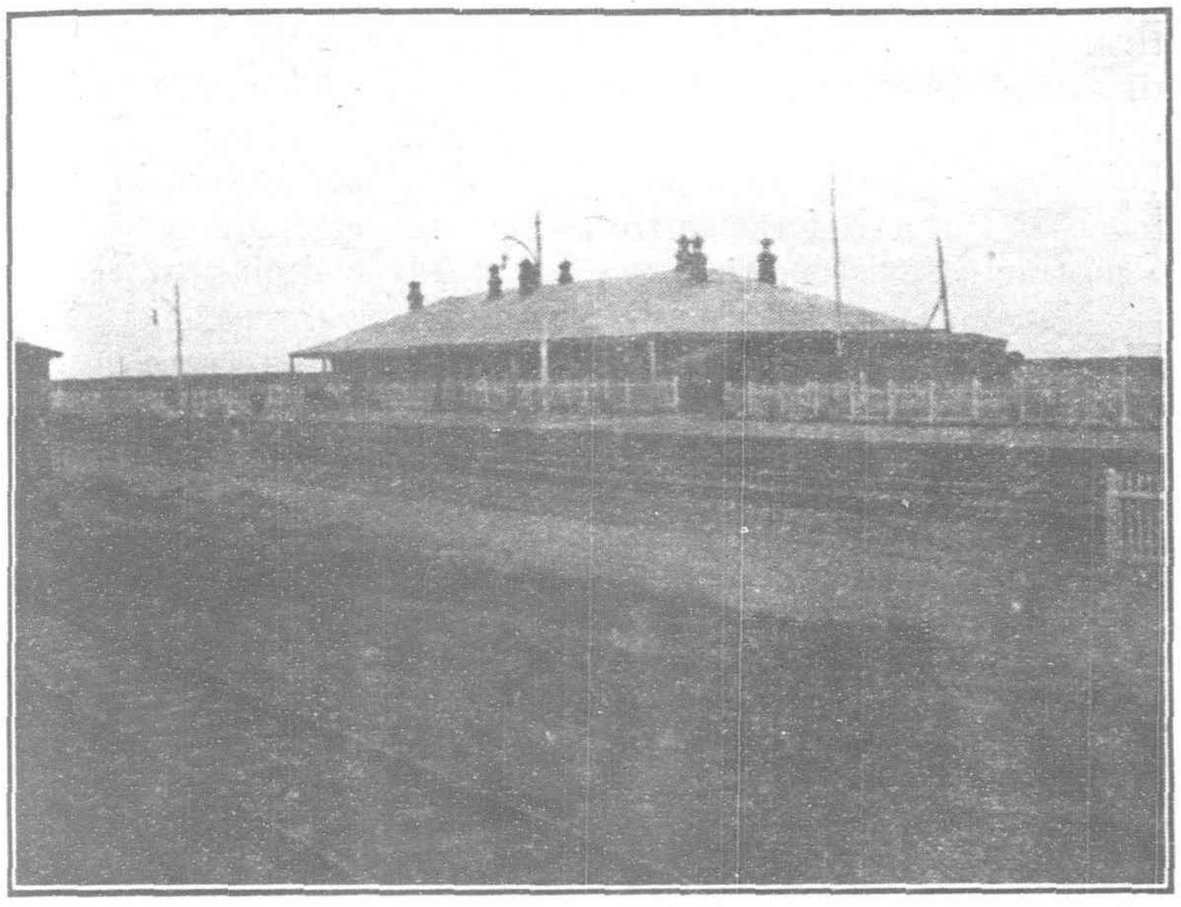


S.S. *Shuhun* FIGHTING HER WAY OUT OF THE FIERCE CURRENT OF THE YEHTAN RAPIDS, YANGTZE GORGES

Opening China's Great North West

A Vast Region of Great Possibilities Tapped by the Peking-Suiyuan Railway

The great North West fascinated American minds for many years, and pluck, skill and energy have now conquered the difficulties that Nature had set in their way. The North West is now thriving and expanding just as fast as population



THE TATUNG RAILWAY STATION

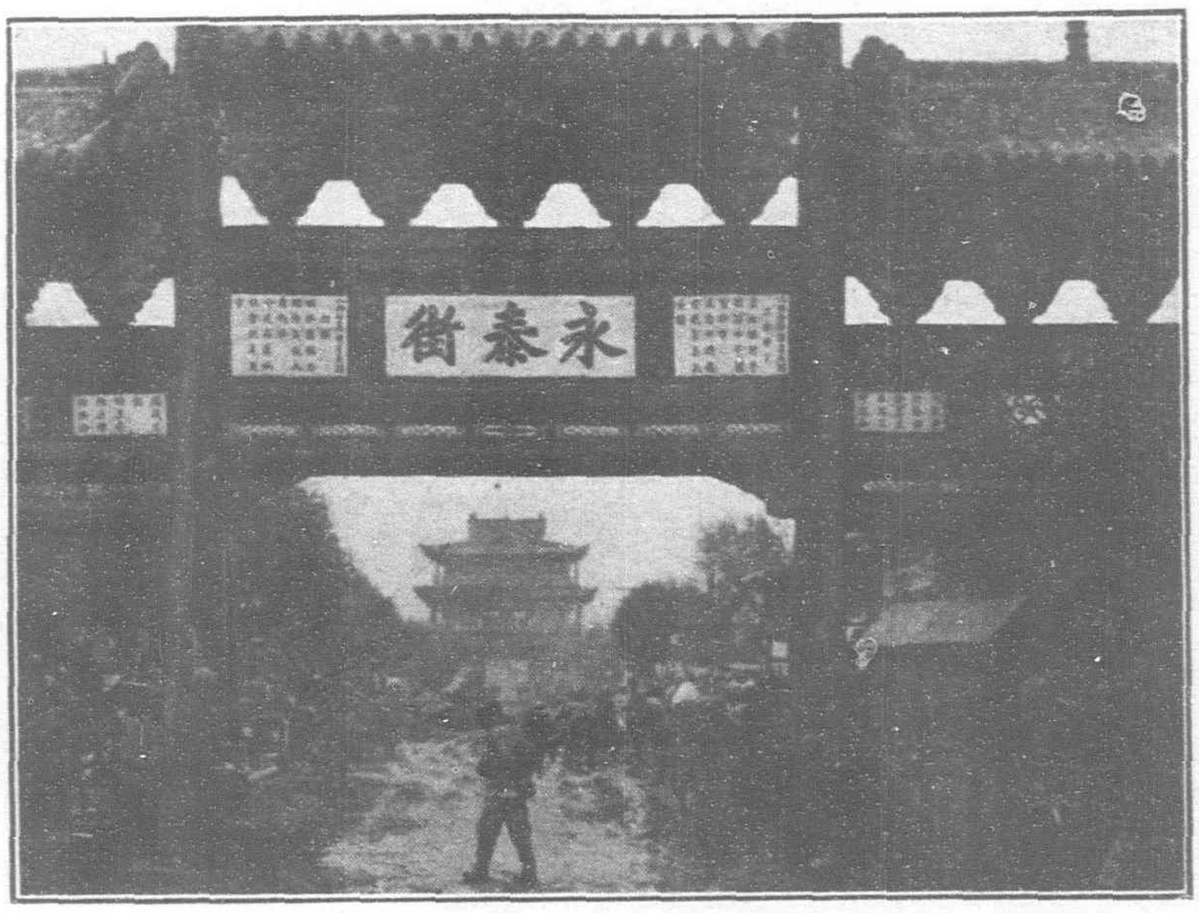
will allow. This is due entirely to the railway, and to the foresight that saw that the railway would build trade, and the courage that sent the line into districts where there was no trade and no inhabitants. Where the line has gone trade has followed with lightning rapidity.

The undeveloped great North West exists in China Proper just as it existed in America, but there is a greater North West than even the tremendous territory embraced within the regions of China Proper. It extends over thousands of leagues through Inner Mongolia into Sinkiang (previously known as Chinese Turkestan), over territory believed by people who have not been there to be desert, but known by travellers to include vast areas of rich grass land, which, opened by railways, would carry a tremendous population, where now they are used by nomads for their flocks and herds. Year after year sees more and more Chinese farmers pushing further North and West with their cultivation, encouraged by the progress of the Peking-Suiyuan railway, and if that line could be continued through Inner Mongolia to tap the great plains in the vicinity of the Yellow River and beyond, hundreds of thousands of Chinese could be taken from the overcrowded provinces and settled on a land remarkable for its extraordinary fertility, and for its grazing possibilities.

In North Shansi, bordering on the undeveloped sections, there are large deposits of coal and iron, which will be of tremendous importance to the great settlements which will certainly develop in the future, and maybe the territory as yet unexplored and unprospected will yield all manner of other necessary minerals. Also there are large coal deposits much further West, in Kansu Province, which the natives have been working for years. So requirements in the matter of fuel for railways aiming to tap this region and penetrate through to Kashgar to link up with the Trans-Caspian system which now is in operation are abundant, as also are the prospects of freight when the land is occupied. Apart from its value to China a railway traversing this region and connecting with the European systems will be of enormous importance to international communication. It is consequently advisable that thought be given to the problem of opening the regions which demand development, as well as to the nearer problem of setting down in China Proper a well-planned co-ordinated system, and that China be financially assisted in the construction of these lines.

In the opening up of the great North West of China Proper there are fewer difficulties to contend with than were encountered by the pioneers in America. Instead of the vast empty plains that the railway engineers crossed in America, there are thriving villages and townships, with families of farmers, who have held their farms for a hundred years or more. Everyone is waiting for some means to transport their goods to large markets and to the sea. Now, only sufficient crops for their own consumption, or not too large to glut the market of the neighboring town, can be raised profitably, and imports naturally remain small, since the farmer has no means of increasing his purchasing power. Once a railway comes to move large quantities of grains cheaply, trade receives a tremendous impetus, both in imports and exports. There are no labor difficulties to be faced. There are men, and to spare, in Shansi, Shensi and Kansu, and no more hardy race of settlers, farmers or pioneers could be found than the stalwart descendants of the dwellers on these wind-swept highlands.

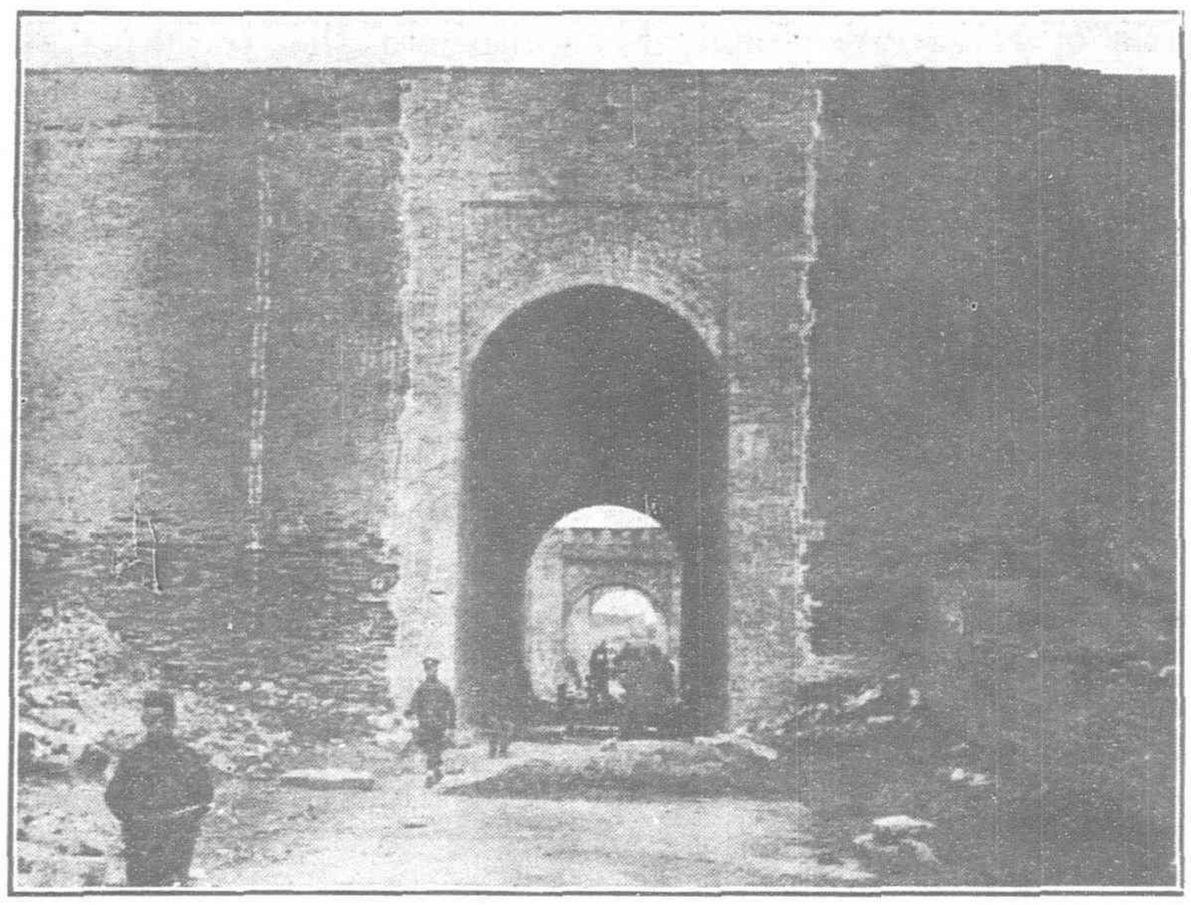
The Peking-Suiyuan Railway has shown this already, for, passing through districts from which it was expensive to move grain and oil-producing seeds down to their natural market of Tientsin, it has spread a steadily increasing prosperity all along its length, although the last two years have been difficult ones for exporters, on account of shipping



A VIEW OF TATUNG'S MAIN STREET

The main street of Tatung is a broad thoroughfare with wide pavements, and is tree-flanked. It is now in course of re-construction and by the spring of next year will be macadamized. When this photograph was taken, it was a common sight to see carts bogged in the middle of the road.

restrictions and the high silver exchange. Grain has increased from 143,902 metric tons in 1917 to 167,828 in 1918: linseed from 7,974 to 15,188: wool from 25,129 to 33,901. This year will probably see an even greater increase, although the fact that the Mexican dollar is now worth more than the United States gold dollar is a most serious drag on export business.



MODERN ROAD INTO TATUNG CITY

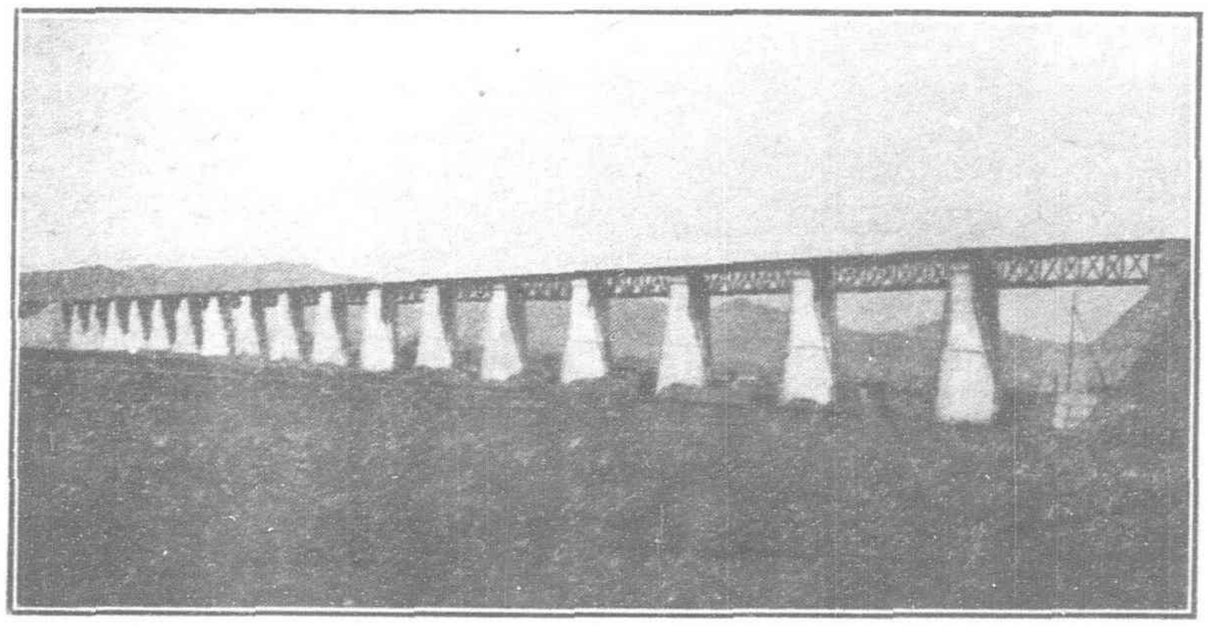
A new macadamized road is being built from the railway station at Tatung into the City. In order to connect with the main street in Tatung the various walls have to be pierced. This photograph shows three or four of the gates recently made.

Railways have been China's greatest need for the last twenty years, and so tremendous are her requirements that, however largely railway construction is undertaken in the next decade, there will still be much to do fifty years hence. Many thousands of miles will have to be built to meet the requirements of a continent holding three hundred and fifty million people—all born traders. There are, however, many difficulties in the path of anyone wishing to help China, to benefit trade, and to reap a handsome profit by building a railway. The first and greatest is an intense form of that international jealousy of which it is now the fashion to explain away by saying "secret diplomacy."

Few Powers have ever had a definite policy in regard to China, because, to formulate a definite policy, one of two alternatives must be faced—either her break-up must be counted upon, when the policy must be calculated to give the maximum yield in the scramble for the pieces, or else China's continuance and growth as a great Power must be presupposed and more constructive help than copy book maxims, however liberally administered, supplied. So most powers have adopted Mr. Micawber's attitude and waited for something to turn up. In the meantime they have expended their energies in checkmating every scheme proposed by other Powers. This is especially true of the railways, and the study of the negotions for the Tientsin-Pukow or some of the proposed American lines will give a deep insight into the petty obstruction which passes for diplomacy. Most of these squabbles have only caused a mild irritation in chanceries, accompanied by violent animosities among the commissionaires of the rival powers. The new Consortium was to put an end to all these squabbles and jealousies, and a golden era was to have been inaugurated, in which, British, American, French, Belgian, and Japanese concessionaires would have lain down together. But the Consortium does not seem likely to have a protracted existence. Japan is already claiming to exclude all Manchuria and Mongolia from its sphere of operations, and some of the members of other foreign groups are showing considerable resentment at what they consider an invasion of their preserves. China herself cannot build her own lines, first, because she does not happen to have the money, and, second, because there are international difficulties. Russian policy in China has much to be responsible for, and for

MUD IN KALGAN

Carts are constantly being bogged in this street which becomes nothing but a quagmire of black mud when rain falls.



THE TATUNG BRIDGE

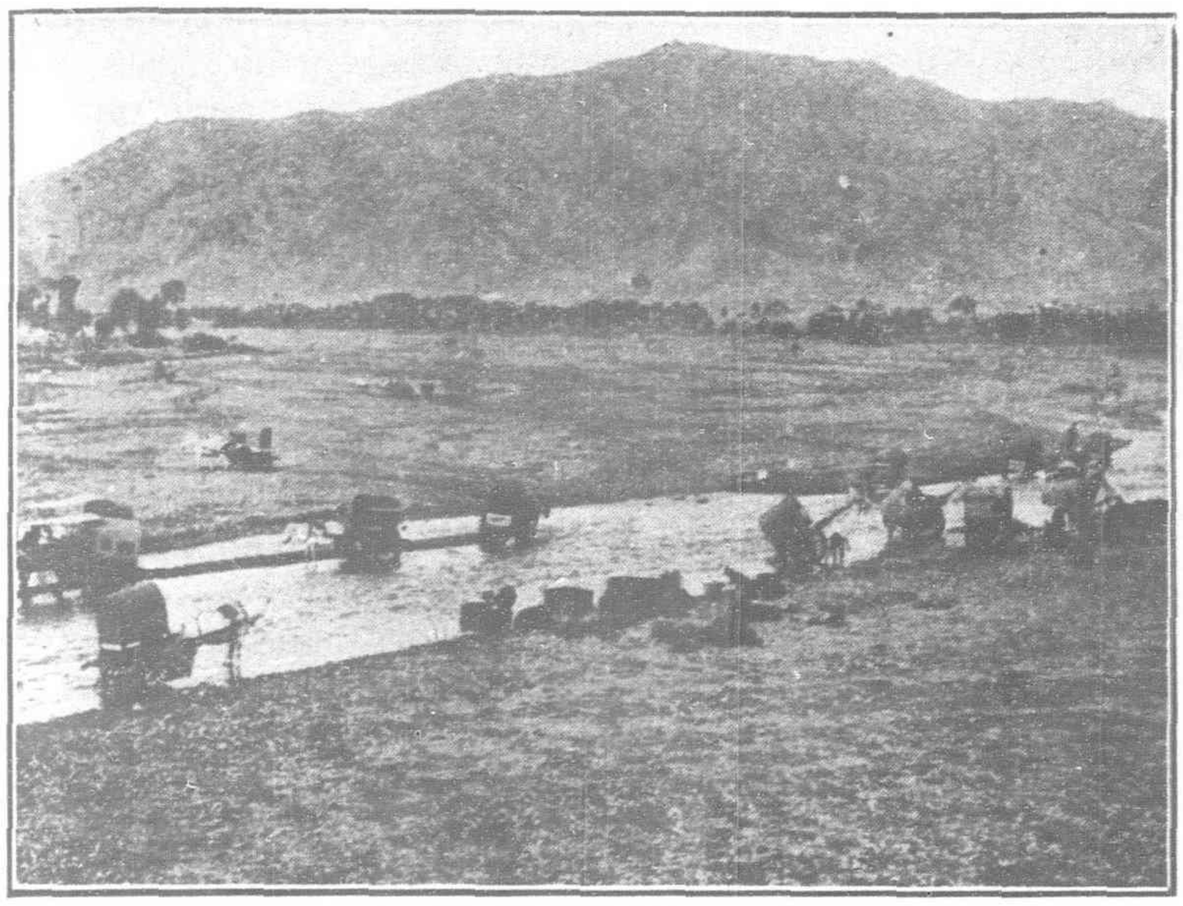
This bridge carries the railway across the Yuho at Tatung. It is 1,800 feet long, the spans being 100 feet each. The piers are of concrete on foundations thirteen feet below the river bed surmounting Oregon pine piles 18 to 25 feet in length. The bridge cost about $30,000 to build.

nothing more than developing the policy of penetration by concession and loan. Under these somewhat depressing conditions it is, therefore, an additional pleasure to find a railway—which was built with China's money by Chinese engineers and which has proved itself a great success from an engineer-standpoint—which is carrying on a most valuable work in its share of the development of the North West.

Where the line (the Peking-Suiyuan Railway) will go after its present terminus is reached is at present uncertain. There are many conflicting claims and difficulties in the way of pursuing the natural course, viewed from the financial standpoint, of carrying the line up to Urga on the north and through Ninghsia to Lanchowfu on the west. It is, however, in these directions that the line will go, and wherever it goes it will pass through rich country and benefit China by drawing off some of her surplus unemployed to regions where they can earn their living honestly on their own land.

The Peking-Suiyuan Railway

The FAR EASTERN REVIEW has from time to time recorded the progress of the Peking-Suiyuan Railway, but some of these references are buried in back numbers, which, since they are out of print, may not be accessible to many of our readers. Before therefore dealing with the line as it is to-day, we



A SCENE ON THE RIVERSIDE AT KALGAN

The Chinese carter is proud of his cart, the wheels of which are often highly varnished and in some cases inlaid. The scene here depicted of carters washing the mud off their vehicles is a common one in wet weather at Kalgan.

propose to recapitulate briefly its history, even though we are repeating information already in the possession of some of our readers.

In 1905 Yuan Shih-k'ai memorialized the Throne on the subject of the construction of a railway from Fengtai, the railway centre just south of Peking, to Kalgan, at the entrance into the pass to Mongolia. The peculiar feature of his proposal was that though the line ran through some hilly and difficult country necessitating much embankment, bridging, and tunnelling work, only Chinese engineers and Chinese capital were to be employed.

The late Jeme Tien-yow assumed charge of the work later in the year, and in October, 1909, a service was opened to the public. The line runs through the Nankao pass, tunnelling under the great wall at the summit. The rise from Nankao to this point is 1,600-ft., and the worst gradient 1 in 33. Much embankment work and three tunnels had to be made, and this part of the line was highly praised by all the foreign experts who passed along it. From the pass the line runs down across the Huailai plain up to Kalgan in the hills, climbing steadily to 2,460-ft. above sea level. This was the terminus originally decided upon but while the line was still building it was decided to continue it. Instead of going northwards towards Urga and the Trans-Siberian Railway system, it was, on account of physical difficulties and for reasons which have in some cases ceased to exist, thought better to turn west and south and tap the vast occupied regions in north Shansi Province which have no modern means of communicating with the world. The line was accordingly directed towards Tatung, and thence to Fengchen. This section was opened to the public in September, 1915.

The distance from Peking to Kalgan is 367 *li* (the *li* being taken as one-third of an English mile), and from Kalgan to Fengchen 414 *li*. The cost from Peking to Kalgan was Tls. 7,085,000, and from there to Fengchen $12,306,000. These two lines were consolidated into one in January, 1916. The capital for construction was supplied by the profits from the Peking-Mukden Railway. Since its beginning the line has been a financial success and the Report for 1918 shows that this increases year by year. The following is a comparative statement of the working results of the railway :

	1917	1918
Operating Revenues	$3,718,001.68	$4,400,638.58
Operating Expenses	$2,548,202.39	$2,866,190.12
Net Revenues	$1,169,799.29	$1,534,448.46
Ratio of expenses to revenue...	68.54%	65.13%

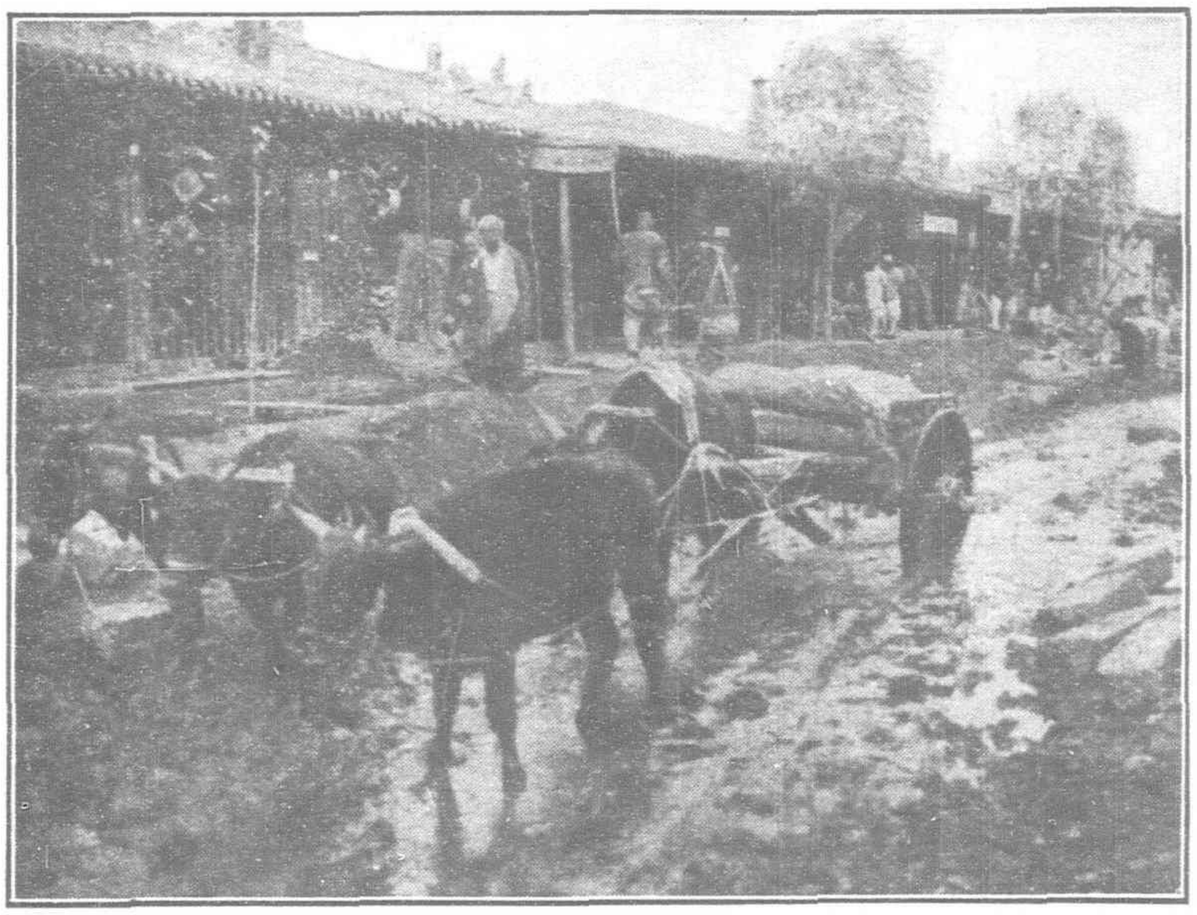
Extension Work Still Proceeding

From Fengchen the line is now being extended north to Pingtichuan, under Chief Engineer Chai Chao-lin, and will be continued to Suiyuan as fast as funds become available. In order to avoid some hilly country a northern route instead of one north-west, which is the shortest route, is being adopted. The distances are, from Fengchen straight to Suiyuan about 90 miles through country which would entail some 1 in 30 grades, while, as the road is planned, it will be some forty miles to Pingtichuan and then about 90 miles on to Suiyuan. The survey of this extension was begun in December, 1918, and work was started in April. It is hoped to have the line open to traffic in February, 1920. At present about 20 miles of earthwork and cuttings have been completed. The first twenty miles follow the valley of the Yu-ho, after which it strikes off across country. Rails are being laid at the rate of a third of a mile a day, and early in October extended some six miles from Fengchen. The maximum grade on the line will be 1 in 130 and the minimum curve radius 1,300-ft. Much embankment work had to be done, the average height being 20-25-ft., and the highest about 65-ft. Waterways make up 2½ per cent. of the total length, but only one large bridge will be required, of 100-ft. which will be covered in 20-ft. spans, and a concrete arch is building in seven spans of forty feet each. The cost per mile is $81,000. This is due principally to the high cost of materials. For example, sleepers which in 1913-4 cost $1.30-$1.70 now cost about $3.20 each. The construction work is done by contract, with the exception of

A MONEY CHANGER AT TATUNG

In streets of up-country cities, towns and villages, the money-changer is a common sight—and a necessity. The chief medium of exchange is the brass cash which is carried about in clusters, a string being passed through the hole in the centre of the coin. The money-changer in the illustration has his cash done up in strings ready for the customer to carry away. A cash is worth variously from 1,500 to 1,900 to a Mexican dollar in North Shansi. A donkey would be needed to carry $5 worth.

the bridgework. Coolies' wages in this region are about twenty Mexican cents a day, head gangers get thirty-three cents, bricklayers and carpenters thirty cents.



A MUDDY STREET IN TATUNG

Carts in this region are the usual wooden-axled, narrow-tired type which cut roads to pieces. They are drawn by all manner of teams, invariably three animals abreast in the traces. In this picture a bullock is in the shafts, with two others and a donkey in the traces. A team of flash Shansi mules or horses is sometimes a sight worth seeing, when at full gallop. When nearing cities all drivers of horses or mules in this country drive at top speed.

There are four branch lines in operation now. The first of these is the Peking-Mentoukou, which links up the coal mines with the Capital, being carried over the Yungtingho by a fine bridge. Construction was begun in 1907 and finished in 1908. The length of the line is 41 *li*, and the cost was Tls. 561,000. The country is very picturesque along this little line as the plain is soon left and the line runs among the western hills. Mentoukou itself is not more beautiful than most mining villages, but all around are pleasant walks. Two of the most ancient temples in North China are best reached from this line, Tan-cho Ssu and Tien-tai Ssu.

Another branch runs around the city, with the exception of the distance between the Shun-chih Men, or western gate of the southern wall, and the Hsi-chi Men or northern gate on the western wall. This line connects with the Peking-Mukden Railway at the Tungpienmen, and was begun and finished in 1915 at a cost of $509,000 for 27 *li*. Most people will regret that it was necessary to cut into the fine old Ming walls at the corners, and to demolish the enceintes between the inner and outer gates. The line so far is not much used.

The Tatung-Kouchuan branch was built to get to the collieries which are scattered through the Huai-yen district. It does not actually penetrate the hilly country where the mines are, but runs to the foot of the hills. The coal is brought down from the mines, some 15 miles away, to this railhead by camels and mules, and then loaded onto the cars. The importance of minerals to the main line can be estimated from the fact that coal represents 32 per cent. of the goods carried, and when the Lungyen iron mines are in full swing the iron ore will rival the coal in quantity. The cost of this branch was $1,200,000.

The Hsuanhua branch links up the railway from Hsuanhua to the Lungyen iron mines, some twenty *li* distant. The first fourteen miles were laid by the railway, standard guage, and the remaining seven *li*, which lie among the hills, the Iron Mining Co. laid themselves with light rails. This line began to work in January, 1919, but the Lungyen Iron Mining Co. has not yet begun operations on the scale which is planned. The cost to the railway was $170,000.

The rolling stock of the railway is in excellent condition. There are altogether 70 locomotives on the line, of which 14 are of the Mikado type. There are seven Pacific locomotives and six Shay, as well as a full complement of shunting and mixed types. These haul the trains successfully over the steep gradients, and provide a regular and punctual service. There are two saloon cars, four dining cars, three ordinary first-class cars, six ordinary second-class, 32 ordinary third-class, nine composite first and second-class cars, seven postal vans, 73 covered waggons, 149 ballast waggons, 490 high sided waggons, 48 coal waggons, and numerous other waggons of various types.

The stations are well built and cared for, and the appointments of the line generally are of a high class.

Through Historic Country

The country traversed by the line near Peking is rich in cultivation and pleasantly dotted with thick clumps of dark green trees, which mark the sites of the graveyards which abound here. To the west the hills rise abruptly from the plain, their southern spurs crowned by the buildings of the Summer Palace and various pagodas. A little further north are some picturesque ruins perched on the skyline. The soil gradually becomes less productive as the road runs north, and there are stretches of gravelly waste. Near Nankao many acres of land cannot be cultivated owing to the boulders and rocky detritus which cumbers the soil. Nankao is now a thriving little railway town, where locomotives are changed for the climb up the pass.

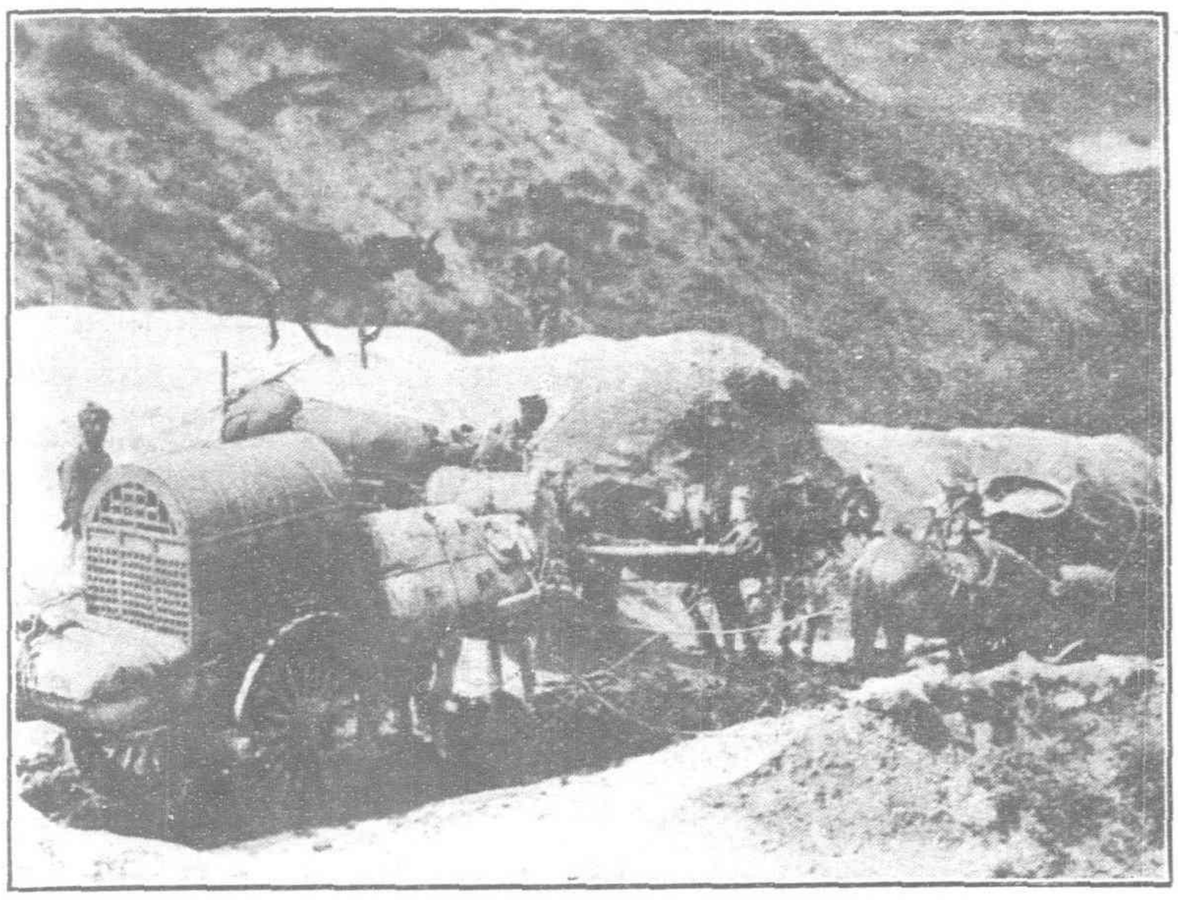
The ride up the pass is, of course, one of the finest sights in North China. The train winds through the ruins of old fortifications which were the most southerly defences of the past, the forlorn hope against Tartar raiders trying to get into the Chihli plain with its booty of rich villages, and, for large armies, the supreme prizes of the Capital and Empire. Beacon towers crown many of the hills, and from this point on the traveller is constantly reminded that he is passing over one of the world's great battlegrounds. Everywhere are crumbling walls, often mistaken as part of the Great Wall, and ruined defensive works.

The railway runs up the east side of the pass: in the middle a little stream shimmers among its rocks: and on the

CHINESE PASSENGER CARTS AT TATUNG

This picture shows a Chinese cab-stand at a railway station. All trains are met by these carts at Tatung and passengers going to the City ride in these or walk

west side is the rock-strewn road down which used to come the trade of the great North West on camels, and mules, and ponies. That trade is now diverted to the railway and the road is deserted save for an occasional drove of ponies in charge of Mongol horse dealers, strings of camels, or donkeys laden with fodder which look like haystacks mounted on thin legs.



GOING TO MARKET UNDER DIFFICULTIES

Hardships confront the Chinese producers in every phase of their fight for life. Carting produce to market along the great highway in Shensi Provnice is full of trials. Some idea of the road can be gleaned from this picture.

The pass steepens as it becomes narrower, and a series of wonderful military positions are passed which make one wonder how it was ever possible to take the Pass if there were but a handful of resolute troops to hold it. The little villages are decaying, but are prettily placed along the edge of the road, with their stone walls, projecting gables, and alas! rapidly decaying temples. In one place half a temple roof has fallen, and the god sits in the morning sun brandishing a sword which looks of doubtful efficacy against rain, the worst enemy to a mud god with wood bones.

Half-way up the pass is a famous gate, a picture of which formed the cover to the August FAR EASTERN REVIEW, and which is photographed religiously by all tourists ascending the road on foot or donkey. It is beautifully carved in low relief with religious subjects from Buddhist sources, and bears inscriptions in several Oriental languages. All these little villages were carefully fortified, with crenellated walls with miniature gate towers and bastions.

The Great Wall in its Glory

Near the crest of the pass the country is beautiful: the sides of the hills are covered with wild flowers, while the road winds through steep mountains which are broken into the fantastic shapes beloved by Chinese artists, and here and there glimpses can be caught of the Great Wall, stern in its grandeur, making its sinuous way among the upper solitudes like a huge ophidian.

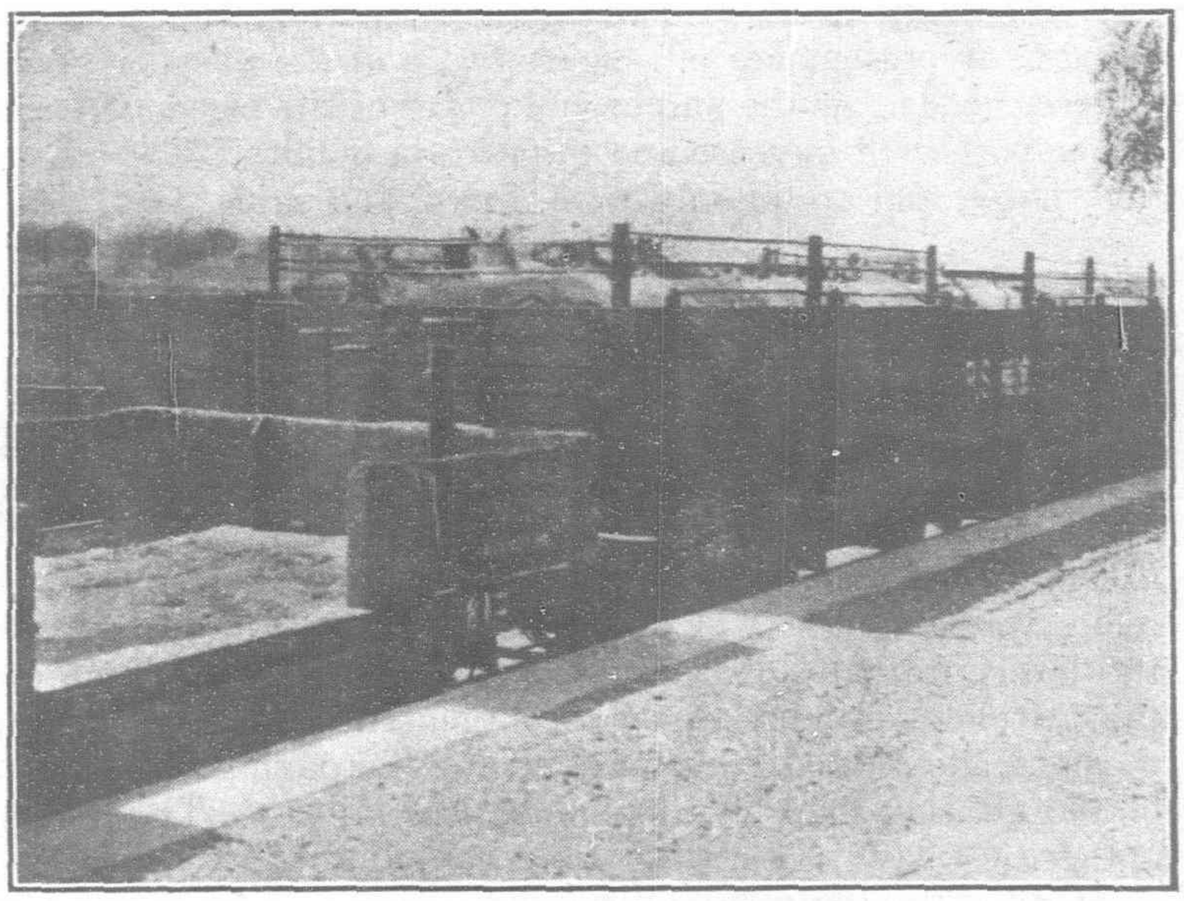
Just at the other side of the tunnel which burrows under the wall is the ancient village of Chatao. This was once of importance, and was a resting place for caravans proceeding down the pass. The village is enclosed within beautifully battlemented walls, with heavy gates, and there is a general air of resistance about it. Inside the walls now there is silence —the trade has gone for ever, and only a few of the poor still live by cultivating their scanty crops on the neighboring slopes or keeping a few goatish-looking sheep.

The hills themselves are bare of trees, and so the land at the foot of the slopes is unfit for cultivation as the soil is washed away by the rains which pour upon it. Within a few miles, however, the land improves and good crops of millet are raised. Huailai is now the centre of an apple producing district, but the apples are of the Chinese woolly kind. Huailai was once of some strategic importance, and was carefully fortified. The walls, which are crowned with towers and pavilions, enclose a good deal of grass land now, and there is little prospect of Huailai ever becoming as busy as it was in its garrison days.

The crops get better and better as Hsuanhua is neared, millet alternating with the various oil-producing seeds for which the district is famous. To the south and west a river can be seen, narrow and shallow in its broad sandy channel, and beyond it are the hills. Hsuanhua has a great past as a "fu" city, and as a pleasant retreat for retired Chinese officials. This Chinese Cheltenham is really pleasant to walk in for trees grow on either side of the streets and spread the shade of a century of growth, and in the main street running North and South there is a stream of clear water hurrying down a carefully raised canal. There is a drum tower, and a bell tower, in the best Chinese manner: there are miles of fine walls: and there are the remains of several fine temples. Sleepiness hangs over the whole city. Hsuanhua may have a future as the centre of a grain growing district, and as the junction of the line to the Lungyen iron mines close by.

The Frontier Town of Kalgan

A short run through fine scenery takes one to Kalgan. Everywhere there are good crops and an air of prosperity. Kalgan itself is flourishing in its dirt and mud. All around are the hills: due north through the pass is Mongolia: by the side of the little river is the old city with its filthy little lanes and dirty little shops, and from it there stretches a road to the Governor's residence and the pass. The roads in Kalgan are of two kinds, and in wet weather may be classified as lakes with muddy bottoms and lakes with stone bottoms. A few intrepid ricshaw coolies ply in the streets, but the only satisfactory conveyance is a cart. No one riding in a cart think satisfactory the word for it, but if one gets out one sees that the improbable is true in this case. A cart keeps one's feet dry and moves from place to place. That is all it does for one, and it does a great deal against one. It bumps, it

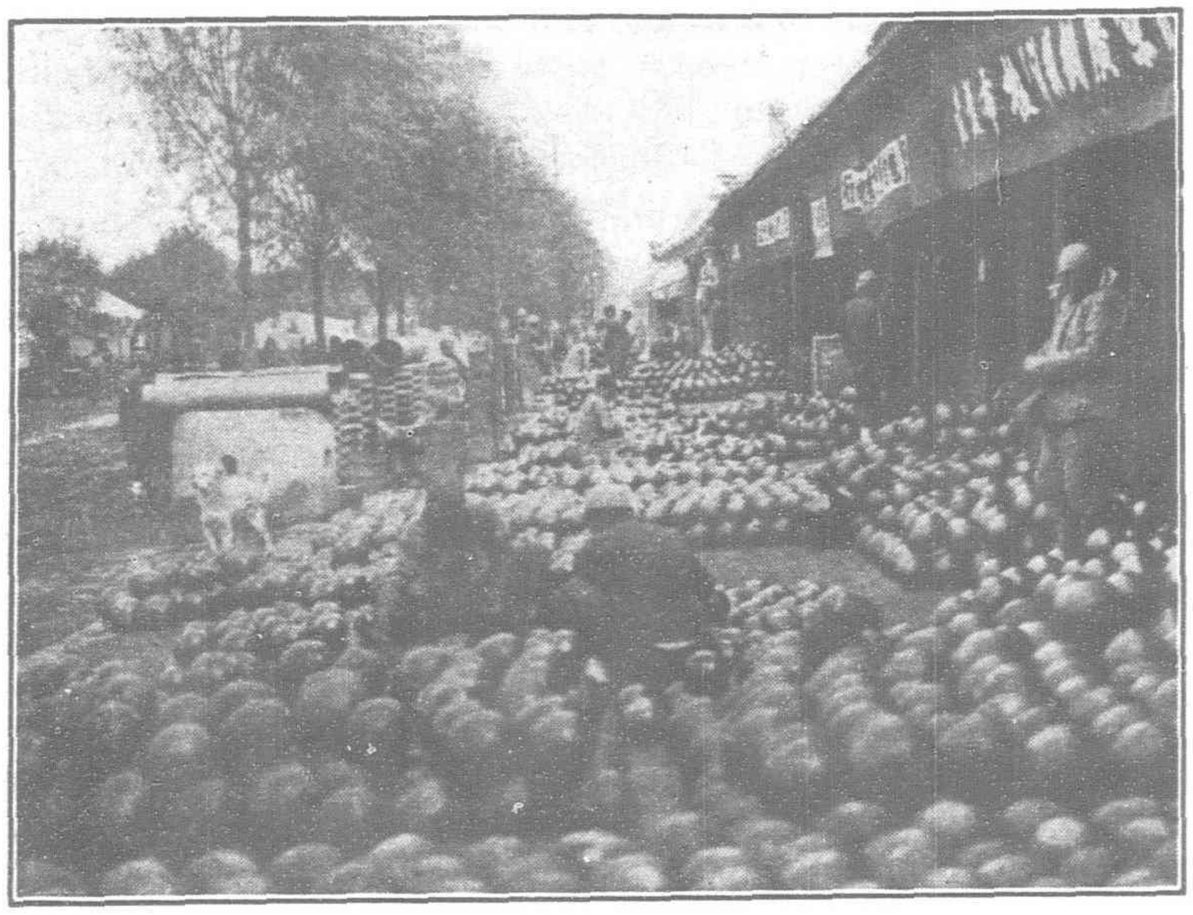


OPEN TRUCKS ON THE PEKING-SUIYUAN RAILWAY

Large numbers of horses are brought down to Peking from Kalgan by the Peking-Suiyuan Railway. These horses are from the Mongolian tableland

bangs, it jars : it is so designed that the only possible way to sit in it in comfort is outside, on the shafts, swapping fleas with the driver in the rain. But it gets there.

Kalgan has electric light, a telephone system, and would have a great future as a summer resort in the hills could it



THESE ARE NOT CANNON BALLS

The streets of Tatung presented a unique appearance during the first week in October. The foot paths were literally filled with melons; so were the shops, houses and even temples. The crop was so good that the harvest could not be disposed of. An interesting feature was that snow was falling on the mountain ranges and sleet was falling in the city when this photograph was snapped. By the middle of October naturally iced melon should be common in Tatung.

be developed on modern lines. All the trade from the western part of Mongolia comes here and transfers from camel caravans to railway trains. Mongols abound in the streets, and Chinese shopkeepers, and manufacturers of all manner of metal ware of a crude kind, drive a profitable trade by supplying them with their simple needs. At present the main seat of business is on the long road stretching from the old city towards the pass, where many shops in the most horrible blend of foreign and native architecture have been built, and where street stalls abound in their hundreds. A colony of godowns and sidings is growing up around the railway station.

As Mongolia is developed by the steady progress of Chinese colonization, so will Kalgan prosper. The principal imports at present are oil, cigarettes, and the cheaper grades of piece goods. As the purchasing power of the place increases, the imports will increase and improve in quality. Exports are very large, and are mainly wool, hides, and skins.

Stern Hills and Prosperous Valleys

The road runs south-west from Kalgan towards Tatung through wide valleys and in some cases fine rolling country. The hills, snow-capped early in October, are to the north and the plain to the south. The hillsides are bare of trees, and the torrential rains of summer have scarred their sides with rocky watercourses. which spread out fanwise as they reach the level into belts of desolate land. Nowhere in China can the traveller see more easily the urgent necessity for the immediate adoption of a scientific and thorough-going system of afforestation than by a trip along this railway. The railway authorities have done what they can, but afforestation is a matter for the Central Government. Originally willows were planted along the line, but these were useless for timber purposes and are being replaced by elms and broad-leaved poplars and firs. The country is dotted with little villages, each being enclosed in a rectangular wall. Some of these walls cannot be longer than 150-ft. and show vividly how this region has suffered from perpetual warfare and raids from the north, if the small husbandmen were forced to group together and undertake communal enterprises of these dimensions in relation to their scanty funds. The larger cities are all equally well protected, and there are several systems of beacon towers which carried warnings across the country. At present the towers are falling slowly into dust, and raids are done by loan and treaty. Running along the base of the hills in this region is a fine wall, with towers every few hundred yards. This was built many years ago by an Emperor of the Yuan Dynasty who wanted to mark the boundary between Shansi and Mongolia—helping the latter as much as possible. Later the balance of power altered, and some miles north there is correction of the Mongolian survey—with Chinese errors this time.

The country is loess covered, and the action of water on this rich, soft soil is striking. The floods pouring down from the hills canyons in the loess on an average thirty or forty feet deep, which widen as they advance into the plain. These wind and twist in every direction, and must constitute formidable barriers to communication. In some places the villages are cut out of the face of the loess and there the dwellers revert to the condition of troglodytes.

An Ancient Home of Emperors

Tatung, once the Western Capital in the Liao and Chin Dynasties (AD. 1020-1234) is a fine old Chinese city of the classic type, some 3,450-ft. above sea-level. It stands just north of the Yu-ho, and there are no less than four sets of walls. The main city wall was rebuilt in the Ming dynasty, as was the wall of the Small North City, while the Small East and Small South Cities were then built for the first time. It was the seat of a military official of high rank.

We are now in Shansi, the best run province in the Republic, and the main street at all events is being metalled—not a day too soon. The accompanying illustrations show the quagmires which the natives thought were streets before. There are still traces of Imperial splendour about Tatung: the remnants of the gate towers, rapidly falling to pieces, are unusually large and fine: there are imposing memorial archways in the streets, and the temples are roomy if decayed.

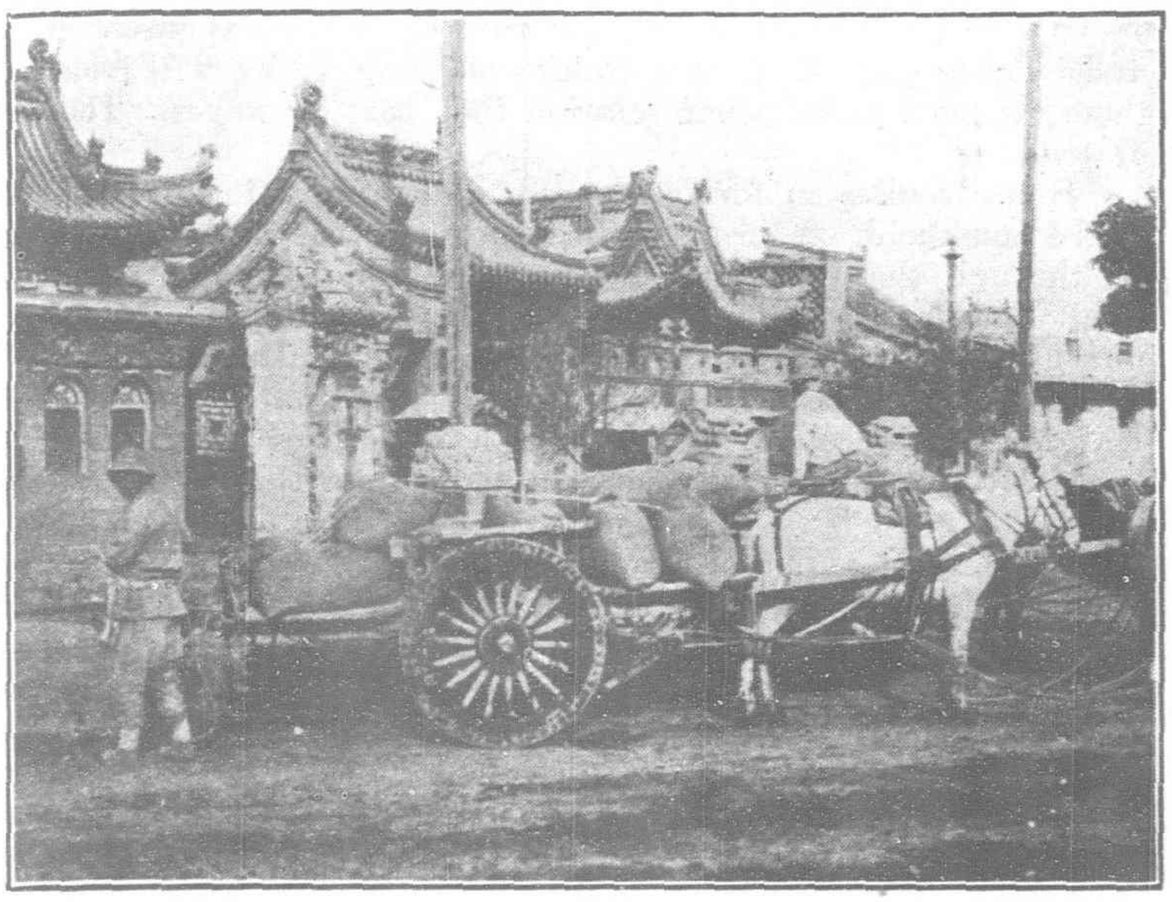
Some foreign goods find their way there, the inevitable cigarettes, oil, and candles chief among them. Animals—mules, horses and donkeys—abound, for Shansi is a great livestock province.

One of the chief sights of Tatung is the Nine Dragon Wall, which dates from the Ming dynasty. It stood outside what was Tai Wang's Palace. and is still in good preservation. It is thirty feet high and 600 long, has nine dragons in encrusta tiles on it. These dragons are much admired by the Chinese for the vigour of their modelling, and the boldness of the colour scheme. In times of drought the country people assemble here and burn incense before these representatives of the Heavenly Powers. Another sight of Tatung is the Hua Yen Temple, which was built by the Emperor Ch'ing Ning who ruled 1055-1066. This contains some interesting bronzes and buddhas, as well as some fine wall paintings. The priests keep the temple in good order. The Emperor Hun Wu of the Ming dynasty converted it into a granary, but it later reverted to its original sacred purpose.

The Yuho runs down the west side of the city, and near it five bronze bulls were erected centuries ago to prevent floods. Four have been washed ignominiously away, but the fifth remains triumphant in the loss of only half a horn in his tussle with time and tide.

A great deal of grain finds its way south from here, as well as live stock and coal, the latter costing only $3 a ton delivered in Tatung.

The Shansi men are proverbial in China for their business aptitude, and enjoy a similar reputation to that of the Scotch. They formerly supplied the empire with its bankers, and now some trades are largely in their hands. To be thrifty among the Chinese is thrift indeed. and their passion for saving



A SCENE IN KALGAN

The style of architecture at Kalgan, as well as the type of cart and method of harnessing is here clearly shown. It will be noticed that the long rope traces are passed through rings attached to the ends of the short shafts.

is illustrated by the adventure of a Shansi man in the Buddhist Hell. He was unhesitatingly condemned by his judge to be boiled in oil, in a large iron pot which was hung over a fire near by. After glancing at it he said "Why boil? Wouldn't bake do? Justice will be served, for it will be just as inconvenient for me, and "—insinuatingly—"couldn't we come to some little arrangement about the oil we'd save?" Certainly life is hard on these wind-swept highlands, and centuries of fire and sword make a self-reliant and determined race.

From Tatung the railway continues up the valley of the Yuho, 27 miles, to Fengchen—the attitude of which is 3,449-ft. above sea-level—the grade from Tatung being one in two hundred, with a minimum curve radius of 1,100-ft. As the railway threads itself among beetling hills it passes remnants of the old Shansi boundary wall, which dodges through valleys and over hills but still defies the ravages of time. Old garrison towns whose walls are banked to the top by wind blown sand and whose glory has long departed still recall the invasions of the Mongols and the military activity which once made the hills resound. The cities now shelter farmers whose families for a hundred years or so have cultivated the valleys, who found it almost impossible to reach markets and who grew merely sufficient to sustain themselves and to trade for barest necessities. The railway has opened a new trade vista for these people, and since its opening to Fengchen their conditions have improved a thousandfold. Markets can now be reached and commodities ar e grown which the buyers in distant places demand.

Fengchen is an old town which has long served Inner Mongolia and which is now a centre of a considerable trade from Kweihwacheng and towns near the Yellow River and in Kansu Province, carts continually arriving with hides and wool and liquorice and other products for shipment to Tientsin and thence abroad. From Fengchen, as mentioned, the line is being pushed forward, and continues up the Yuho valley to Hunsobah—20 miles north of Fengchen—when it strikes through the hills across more open country. Provided funds are made available it will reach Suiyuan, the trading mart of Kweihwacheng, in the near future, and will alter the conditions of the whole of this fertile country. General W. S. Y. Tinge, the Managing-Director of the Railway, is doing his utmost to push the line through to Suiyuan—and beyond. If his ideas materialise China will have a line which will open up her great North West and which will eventually give direct connection with the existing Trans-Caspian system of railways.

China and Wireless

The Chinese Government gives evidence of serious intentions regarding the control and operation of wireless. A Radio Section has been established at the Ministry of Communications, Peking, which will have charge, under the Director-General of Telegraphs, of all wireless affairs. Major Dockray has been appointed Supervising Engineer, and he will be assisted by a staff specially selected.

The primary work of the Radio Section will be to reorganize matters connected with the wireless interests already acquired by China and to erect and operate the three new Marconi stations recently contracted for and the plant for which is now in China. Major Dockray comes to China from the Marconi Company, London, and during the War was a member of the British Aviation Corps. He will personally supervise the erection and installation of the new plants to be situated in Urga (Mongolia), and Urumchi and Kashgar (Sinkiang). The material for the Urga installation is now at Kalgan, *en route* for its destination, and the two other plants will go viâ Fengchen. All the material will be taken on camels and carts from the railway at Kalgan and Fengchen.

The equipment is for the erection of the latest type Marconi arc stations, and comprises the latest Marconi receivers, similar to those which have been utilized by the British Admirality during the War, and special aerials for directional working, so that communication can be maintained during atmospheric disturbances.

A Chinese technical staff to operate the stations is now being prepared, instruction being given to a number of Chinese in Peking, while Chinese engineers are now being trained at the Marconi factory in London.

The wireless telephones ordered by the Chinese Government from the Marconi Company of London some time ago are now in China, and will shortly be handed over to the Board of War. A demonstration will first be given to the military officials at Peking.

Details of the recent contract secured by Vickers, Limited, for the construction of aeroplanes and aerodomes in China have not yet been made public. The contract was arranged by Mr. F. W. Allonby, who unfortunately died a few days afterwards owing to complications arising from an attack of typhoid. A short time after the contract was signed a loan for £1,803,200, bearing interest at 8 per cent. and discounted at 98, was placed on the London market and fully subscribed.

The Cost of Living to Chinese in Shanghai

Some Data on Native Wages and Living Expenses in a Treaty Port

A Chinese attached to our staff, who has seen much service as an investigator for foreigners of sociological conditions among the Chinese, has compiled the following data on the wages and living costs of coolies and skilled workmen in Shanghai and elsewhere. We are printing his data in the belief that it may shed some light upon the question of the rising cost of Chinese labor, which is now occupying the minds of many employers in Shanghai and other treaty ports.—THE EDITOR.

* * *

Recently there has been some discussion about the rising cost of Chinese labor. While it is true that wages have risen in some lines of occupation, there has not as yet occurred anything like the strong upward tendency of wages abroad. To the writer it seems that present wages in China among the bulk of the employed classes, especially in Shanghai and the Treaty Ports, do little more than give the worker a bare living. It is ridiculous to speak of Chinese wages as high, for as yet Chinese pay is very low even when compared with other Asiatic countries. The following list gives the usual rates of pay:—

House coolies in foreign employ	Usually $8, sometimes $6-$10 per month with lodging but without food
House coolies in Chinese employ	Usually $5 per month with food and lodging.
Office coolies in foreign employ	Usually $8, sometimes $10 or even more per month, without food and lodging.
Office coolies in Chinese employ	Usually $5 per month, with food and lodging.
Factory coolies at light work, hours from 7 a.m. to 5 p.m. with time for lunch	$0.25 per day, without food and lodging.
Coolies engaged in supervisory capacity	$0.40-.50 per day without food or lodging.
Factory coolies engaged at hard work, usual hours 6 a.m. to 6.30 p.m. with time for lunch—this class usually employed in cotton mills and silk filatures	$0.40-.50 per day without food or lodging.
Garbage coolies	280 cash per day without food or lodging.
Other coolies engaged in public works	320 cash per day without food or lodging.
Ricksha coolies in foreign employ	$12 per month, without food or lodging.
Ricksha coolies in Chinese employ	$6 per month with food and lodging, but sometimes foreign wages without food and lodging is the rule.
Public ricksha coolies, who rent their vehicles by the day; barrow coolies; hand-cart coolies; wharf coolies.	These classes are paid by piecework. Strong and vigorous men can make $0.80 per day or more; ordinary coolies make $0.50 per day; old or weak coolies make $0.30 per day.

Sometimes especially faithful and trusted coolies make up to $20 a month when engaged in factories, godowns of foreign ownership, prosperous Chinese hongs, etc. One special class of coolies sometimes make as much as $60 a month; these are the native bank messengers, who earn a commission on collections, transmission of currency, etc.

Some wages above are given in terms of cash. The nominal exchange is 1,300 or more cash to the dollar.

We will now turn to the question of living expenses. Food and lodging come first, then follows clothing, so we will look into these expenses to see what relation they bear to wages. The cost of food:—

House coolies in foreign employ are usually fed by the cook of the household, on scraps or waste, or on other foodstuffs obtained through the ingenuity of the cook, for about $2 a month. Their lodging is generally provided free, although it is not unusual for a cook or No. 1 houseboy to make an assessment against such servants for lodging which is under their control. However, house coolies of this class have to dress neatly, so that their clothing expense is somewhat more than that of an outside laborer.

Office coolies in foreign employ usually secure lunch and supper at a cost of $4 per month, and pay about $1 a month in addition for breakfasts.

Day laborers engaged in strenuous occupations usually pay 200 cash per day for three meals, which they take at public food shops. Other coolies pay 170 cash daily, when taking food at similar shops. A laborer "chowing" at shops usually wants three bowls of rice, an order of vegetables, and a dish of soup, for his usual meal, the same kind of food being taken at all three meals. The first bowl of rice, which is referred to by a flowery expression which is hard to translate into English, costs 20 cash; the second bowl, which is known as "additional portion," costs 16 cash; and the third bowl, which is called the "divisible portion" (for surely a man who can afford a third bowl of rice can divide it with another if need be!), costs 16 cash. So far the meal has cost 52 cash; and the coolie adds to this a dish of vegetables at a cost of 16 cash and a bowl of soup at 32 cash, bringing the total cost to 100 cash. To this is usually added a "little chance" for the shopkeeper in the shape of a 5-cash bonus. It will be observed that this expense three times daily absorbs a large part of the coolie's income. But there is a more economical way of "chowing," and that is to board at a lodging place or with another coolie at a cost of $4 per month for two, and $4.50 per month for three meals daily. Coolies whose work keeps them in one neighborhood constantly will have a steady boarding place where food is obtained at these monthly rates.

As for ricksha coolies, such men have to get hearty meals if they are to stand up under their steady grind. They have to spend not less than $4 a month for chow, and in addition buy small portions of food during the day, like vermicelli, dough cakes, steamed dumplings, congee (soft boiled rice), or native bread.

We now go into the question of lodging. Coolies are offered two ways of living—in third-class lodging houses, where a bunk is offered for 60 cash the night, or in the homes of married coolies, where a place on the floor is given for $1.00 a month. Some coolies are too poor to afford either, and put up with friends who live in straw huts on "squatter" locations outside the settlement. Of course some settled coolies, and nearly all skilled laborers, have homes of their own, the expense of which is usually shared by lodgers or boarders.

Clothing itself is a considerable item. The approximate cost of clothing per year for a house coolie or office coolie is as follows:

4 pr. cotton shoes at $0.55	$2.20
4 pr. cotton stockings at $0.32	1.28
3 suits cotton jackets and trousers at $1.60	5.80
2 suits cotton jacket and trousers wadded with cotton at $2.00; proportionate cost of one year's service	2.00
1 cotton long robe at $4; proportionate cost for one year	2.00
1 cap, 1 summer hat	1.00
1 pr. leather shoes for wet weather	3.00
1 good paper umbrella	.40
	$19.68

This is a most conservative estimate for a year's clothing expenses for a neatly dressed coolie. Many office coolies estimate their cost of clothing at $30 the year, as they are not satisfied with so few garments. It is the writer's opinion that a thrifty coolie can dress neatly for a year at a cost of $20-$25.

Day laborers are satisfied with much less. Their principal expense consists of straw sandals, which wear out quickly, but which seem to be cheaper than any other form of footgear for men engaged in carrying heavy loads. Their yearly expense would be about as follows:—

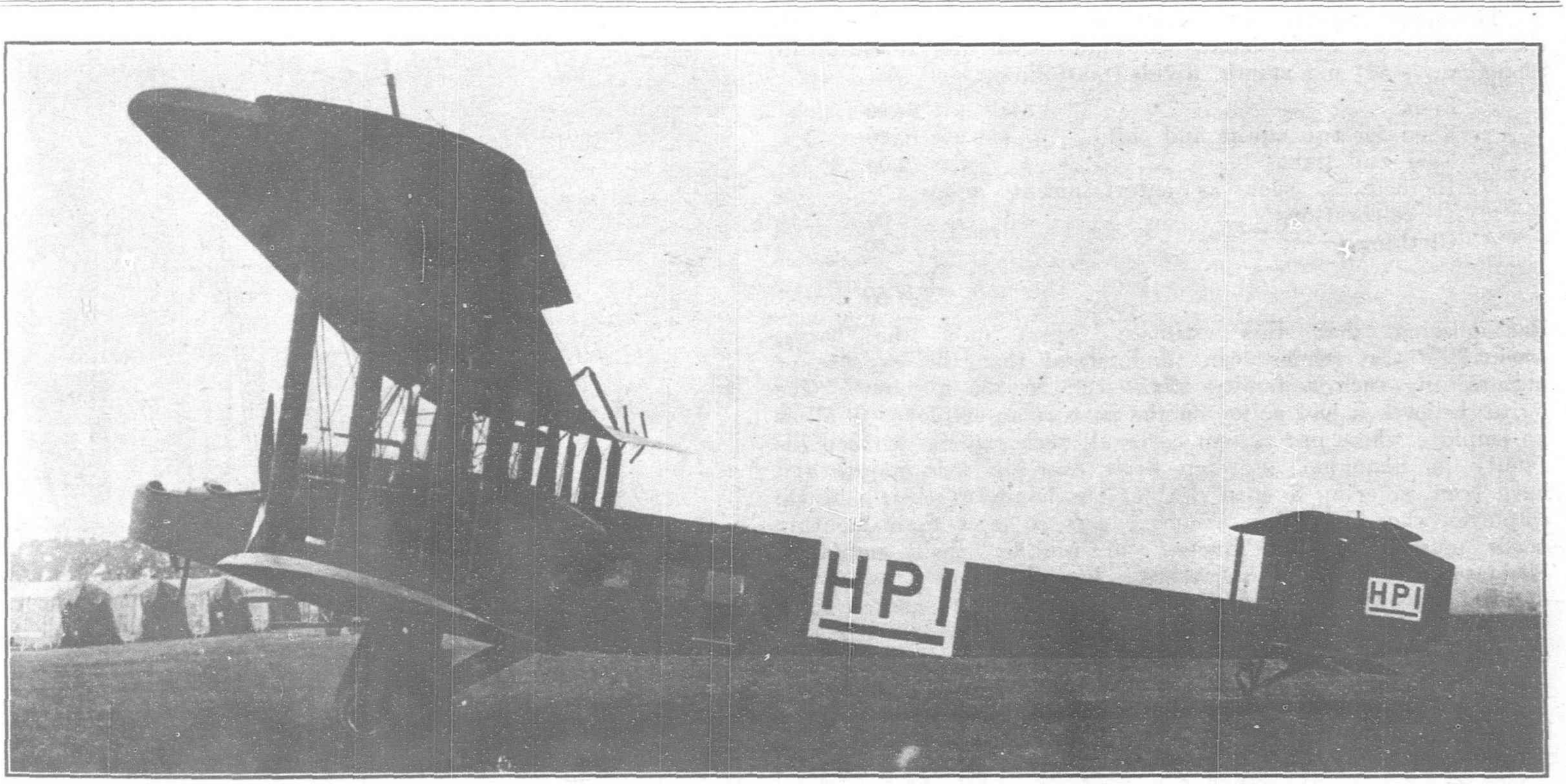
30 pr. straw sandals at 20 cash, total 7,200 cash or	$5.54
2 suits second quality cotton jackets and trousers at $0.80...	1.60
2 suits second quality wadded cotton jackets and trousers at $2.00	4.00
1 pr. cotton shoes for occasional wear	.55
1 pr. cotton socks and 1 cap for occasional wear	.50
	$12.19

Such coolies do not change their clothes until they are patched and worn until they no longer offer protection. Office coolies and house coolies employed by Chinese have the advantage that their food and lodging is provided for, and their employers will not permit them to keep families in Shanghai, but insist upon their families remaining in the country where living is cheaper. Coolies in foreign employ usually have their families in Shanghai, and their efforts to make their salary cover all their expenses forces them to "squeeze" or steal. The writer's ten years' experience in the police has convinced him that the morale and efficiency of coolies in foreign employ would be heightened if they were cared for after the Chinese fashion. A contractor employed in conservancy work told the writer that he found his coolies could do two times the work of the usual Shanghai coolie because he gave them food and lodging and advanced pay to their families in the country, so that most of their time was not occupied by worrying for their families or striving to make their meagre salaries cover living expenses in the city.

Wages and Costs among Skilled Labor.

We will now look into the affairs of the skilled laborers, clerks, etc. There have been recent advances in wages named by guilds and others, but we will take up the usual rates of pay. Wages are about as follows:—

Carpenters engaged in construction	$0.35 per dav with food; $0.50 per day without food.
Carpenters engaged in shops	$10 per month; $6 per month just after completion of apprenticeship; $15-$25 if able to do the finest work or direct others; in all cases with board and lodging in addition.
Carpenters in foreign employ	$0.75 per day or $12 per month; $1 per day or $25 per month for extra good hands; no food given.
Masons	$1 for 3 days with food; $0.50-$0.70 per day without food.
Engineers	$60 up per month, as those employed in dockyards; some at $150 or up as those employed by railways; others at $350 or more, as those in arsenals.
Blacksmiths	Foreigners pay $15 per month or up to $40; Chinese pay $12 per month with food, or more for good hands.



HANDLEY-PAGE COMMERCIAL MACHINE FOR CHINA

The machine shown in this photograph is the first of the batch of six Handley-Page machines purchased by the Chinese Ministry of Communications. This and another machine are already in China, and the remainder are due shortly. The problem of handling them after they arrived in Shanghai was a difficult one, owing to the great size of the cases. The machines will be assembled in Peking on the big parade ground at Nanyuan, south of the city. The machine here shown will carry ten passengers. The wing span is 100-ft., and 31-ft. when folded. The height is 23-ft.; length 63-ft.; weight, empty, 8,000-lb., fully loaded 14,000-lb.; useful load, mail or cargo, 2 tons; number of passengers which can be accommodated, 12 comfortably, 20 if necessary; engines, two 350 H.P. Rolles Royce "Eagle," 12 cylinder; petrol consumption 40-50 gallons per hour; oil 5 gallons per hour; maximum air speed 95 miles per hour; touring air speed 85 miles per hour; can maintain flight on one engine only, though at reduced speed. Machines of this type fitted with saloon interiors carried officials between London and the Peace Conference to the number of 700 passengers in one month. One of the machines completed the circuit of Great Britain, 1,600 miles, in 30 hours' flying time. During July, 1919, over 3,000 passengers were carried during week ends in England on Handley-Page machines, while a regular service was run to Bournemouth. A service from London, to Paris and Brussels and back was started on September 1. A Handley-Page recently flew to Copenhagen and back, maintaining a height of from 10,000 to 13,000-ft., while numerous Handley-Pages have flown to the Near East, crossing the Mediterranean, one going to India.

Fitters, in foreign employ	$18 to $30 per month.
Ordinary clerks in foreign offices	Usually at $20-$25 per month, with prospects of an increase in pay of from $2 to $5 per month after two or three years services; and so up to $100 per month.

It is interesting to observe the methods used by large Chinese business organizations of the new style. The two big department stores start clerks at $8-$12 per month, with food, lodging, hot water, shaving, and bonuses. They have prospects of increasing their pay by $2 a month after long service. Of course skilled men get much better wages—very nearly the same as in the foreign houses. A large printing firm usually starts its men at $10 per month after they have completed their apprenticeship, and give increases up to $30. Positions as departmental managers, etc., pay up to $70 per month and more. Besides pay they receive food, medical attendance, pensions, and bonuses.

The Chinese Plan of Employment

The reader may also be interested in learning of the plan of payment in force in Chinese shops. Clerks usually get from $2 to $16 per month; managers from $25 to $30 per month, with a share in the business. In addition, they can draw their share in the business in advance. The bonus is usually divided in this way: The net gains of the year are divided into sixteen equal shares; the manager gets a full share; the sub-manager and accountant divide another share; and one or two full shares are divided among the other employes, equally or otherwise according to the direction of the manager. They also receive food and lodging, but only the best paid employes are permitted to keep their families in Shanghai. Shop owners say that the expense and bother of keeping a family in Shanghai will drive a good employe to commit embezzlement!

The lowest expense of maintaining a family of the shop-clerk class, consisting of husband, wife, a mother and a child, in Shanghai, is $27 per month, divided as follows:—

Rent	$4.00
Food for two adults and child	10.00
Fuel and light	2.00
Incidentals, such as entertainment and celebrations	6.00
Clothing	5.00
	$27.00

Remembering that this estimate covers only the barest essentials, the reader can understand that the expense of maintaining such a family might run to $50 a month. The writer believes it bad policy on the part of an employer to allow an employe whose pay cannot cover all such expense to keep his family in Shanghai. Foreign firms overlook this point, and have been suffering a good deal at the hands of their Chinese employes who, since they cannot expect to meet their monthly needs, must collude to "squeeze" or plunder their employer. Besides the loss that ensues, there is brought about a poor state of efficiency. A man can keep a wife, a mother and a child in the country at $10 per month, because the essentials of existence can be had much cheaper in the country.

As for skilled laborers, most of these keep families in Shanghai and their wives add to the family income by working in factories. The cost of maintaining a family is $30 a month, and even the wife's income added to a husband's salary is often not sufficient to meet this expense plus a little luxury and diversion. So workmen under these conditions must "squeeze" or steal. When the writer was in the police, a fireman in the employ of the gas company was shot by a native policeman because he was found running away with a basket of coal belonging to the company. That fireman received $25 per month, but had to support a family of six. The wife could not help, because she had to look after the children. His salary naturally was insufficient to meet his expenses, so to him it seemed a natural thing to steal every night a basket of coal with which to add 50 cents to his income. The writer firmly believes that foreigners have reached a mistaken idea in their belief that Chinese are *always* dishonest, and would rapidly find that this is not the truth if they studied the Chinese method of paying wages.

Even the merchant has a hard time to meet his expenses. A thrifty merchant will have to spend at least $90 a month to cover essentials for his class. His rent will be $15; fuel and light $3; a female servant $3; a ricksha coolie and license $7; food for the family $30; clothing for all $20; incidentals $15; total $90. A merchant living at this scale cannot have many friends and cannot entertain friends and customers in restaurants or singsong houses. It is the usual thing for a merchant to spend $200 a month for his home and himself. One of my acquaintances, a silk merchant, with two families, one headed by a wife and the other by a concubine, spends as much as $5,000 a year. Another friend spends $10,000 a year for his home and several concubines.

As for clothing, skilled laborers spend $30 to $60 a year on clothing. Their bare necessities in the way of garments will cost approximately 15 per cent. more than the figures given for unskilled laborers. The better grade of skilled laborers and clerks will spend about $60 per year on clothes if they wear the usual proportion of silk, but not the smartest fashions. A merchant of the conservative type will spend $100 a year on clothing for himself, but will spend several times this amount for the clothing of his wife.

The writer has not drawn many conclusions, or even added together the figures for the several living costs, believing that the few persons interested in this subject will draw their own conclusions and compile their own figures from the data he has given herein. But he urges all foreign employers of Chinese labor and skilled help to study the Chinese plan of paying and caring for labor as a solution to many of their present problems, and especially for the increased efficiency of his staff.

SEATING ACCOMMODATION ON A HANDLEY-PAGE AEROPLANE

The passenger accommodation on the Handley-Page machines purchased by the Chinese Government is as shown in the above photograph. Cane chairs are arranged inside the fuselage, and are reached through a door on the left hand side of the fuselage. Glass windows enable the passengers to see with ease the scenery which is unfolded during a flight.

Japan's Labor Problem

By A. MORGAN YOUNG

Labor, in Japan as everywhere else, refuses to be frightened by the threat of foreign competition into postponing its demonstrations. It is confident in the fact that "everybody's doing it." Not a day passes without its list of strikes, and if these seem to be only partly successful or not successful at all, this is generally because the strikes proceed on the good old Oriental principle of asking for more than they are prepared to accept. The success of the strikes may, therefore, be regarded as pretty complete. The rise in wages was inevitable, quite apart from any question of Japan being caught in the world's current of industrial unrest, as the persistent rise in prices made it impossible to continue at any approximation to the old figures or to regard "special allowances" as anything but a permanent addition to income. Even now, the price of rice and usually rent are far higher in proportion to wages than they were before the war, speaking generally. The Kawasaki strike was the great test case. The Kawasaki Company, with its 15,000 men in its great dockyard, was the largest employer of labor in Japan—the largest in any one place, at any rate. The President, Mr. Matsukata, insisted on the men going back without a definite promise (something in the manner, it has been remarked, of the "point of honor" over the Shantung question), which they did, following which a prompt announcement was made of various concessions. Curiously enough, Mr. Matsukata's tactics appear to have given a new impulse to the labor movement all over the country. When the men were discussing higher wages he would talk of nothing but his plans for an eight-hour day. It is not, in effect, a real eight-hour day, but only eight hours for the fixed wage, all work in excess being paid for as overtime. Although when Mr. Matsukata first proposed it, he was regarded as only trying to obscure the issue, the eight-hour movement has spread like wildfire, and most strikes are now in order to get an eight-hour day enforced as well as a higher scale of wages.

Eight hours with overtime may be very satisfactory to men earning high wages in the dockyard, but the system has to be worked without overtime in the factories unless it is to be perfectly meaningless, and especially in the cotton mills. Mr. Muto, the manager of the Kanegafuchi cotton mills, who has gone to Washington as representative of Japanese capital, is opposed to the eight-hour system. In this he has all the spinners with him, though not their employees. The spinning industry is the chartered libertine among Japanese industries. It was on its account that the Factory Law had to be introduced, and when that long-deferred law was at last put into partial effect the spinners got all sorts of special postponements and exceptions made in their favor. The trouble with them is that they want to get the last ounce of work out of the plant in order to compete with countries which work their machinery less than half the time. Mr. Muto says that he has tried the eight-hour day and it results in only a slight improvement in efficiency, with a much smaller total outturn. To have three shifts a day instead of two is not practicable because, in the first place, the mills have used up the girls at such a rate that it is now very difficult to persuade sufficient to take up this employment, and, in the second place, because if Japan conforms to the Western rules it will be impossible to employ women at night at all—but this only seems to make the two shifts of eight hours ultimately inevitable. Mr. Muto, however, is going to fight for liberty to work long hours. While the Kanegafuchi Mills have a good reputation, there are many mills which are regarded as only death-traps for the girls who work in them, but all alike will fight against not being allowed to work girls for twelve hours and box-and-cox them in dormitories where the air is fouler than in the factory. Some of the Japanese papers, however, notably the *Asahi*, have been lately carrying on a campaign against the bad treatment of the mill girls. The cotton industry is the largest in Japan, and it has made the least headway in the way of getting higher wages and shorter hours. This, of course, is mainly because the mills are staffed almost entirely by girls.

It is in the shipbuilding, printing, and other new and organized trades (apart from spinning) that the labor movement has made the greatest progress. Most of the strikes have been models of deportment. The police still keep up their sleeve the illegality of the strike, and on occasion men are prosecuted for instigation, while what is called "victimising" in Britain is freely practised, the combination of the workmen and their public spirit not being sufficiently strong to protect the men who have undertaken the duty of spokesmen for them. Police interference becomes less and less common, partly because the strikers have the good sense to give no provocation, and partly because the police do not like to take the risks involved. Those of the men's leaders who have studied foreign labor movements have been struck by the advantages of good order in a strike, and they realize that they have most chance of success when they give no excuse for reprisals. "Sabotage" is a word to conjure with, though it never means the destruction and damage which are the usual meanings it bears in Europe.

The most striking developments of the labor problem, however, are those in the lower ranks of officialdom. Officials in Japan were always very poorly paid, and are now very hardly pressed. Some large increases have already been made in the wages of certain classes, but the fashion of the day is for the various classes of minor officials to send in ultimatums regarding their pay and hours of work. School teachers are as dissatisfied as anybody, and there are even whispers of policemen being ready to strike. The Government in its workshops—those at any rate under the military—has been very harsh in dealing with the strikers, but this has not prevented all kinds of minor Government employees from preferring their demands. In all the public services a stronger reason than a mere demand has come into operation. It is impossible to get young men in these days for the post office and other institutions, as they can get much more lucrative posts elsewhere. So the Government is compelled to revise

its wage sheet and make it more attractive. The Government has become almost reckless in granting substantial increases, raising wages in great batches, generally by 50 per cent.

The question of labor unions is naturally to the fore. The Yuai-kai was the first and is still the principal labor union in Japan. A little while ago Baron Shibusawa, a business man rather than an industrialist, was very keen on a scheme for "harmonising" capital and labor. The Japanese are terribly fond of harmonising at all times, and of course the harmonisation of capital and labor appeals to this instinct strongly. Japan's only labor leader, Mr. Suzuki Bunji, will have none of it. Meanwhile, something has happened. In all the racings and chasings concerning the appointment of Japanese delegates to the International Labor Conference the name of Baron Sibusawa was not so much as mentioned. The Baron seemed to feel it, and went out of his way to congratulate his sworn enemy, Mr. Suzuki, on his refusal to tolerate the Government's method of selecting delegates. But while Baron Shibusawa's particular kind of harmonisation may be taking a back seat, the Government is preparing its own little scheme for presenting to the Diet when it meets at the new year. This scheme includes a bureau for harmonization. Instead of regarding all associations as illegal, it provides for official recognition of unions at each factory. Evidently the large crop of imitators of the Yuai-kai which has sprung up during the past three or four months has somewhat scared the Government, which is now making an attempt to prevent trade unions by allowing association within each factory. The Government is to appoint chief councillors to take charge of the workers' decisions and to guide them in the right direction. It seems hardly likely that the people will tolerate such a counterfeit as this, when they have had such striking examples of the success of team work outside individual factories.

Japanese delegates to the Washington International Labor Conference are, at the moment of writing, on the Pacific on their way to the great meeting. The election of the labor delegate was a great comedy. The Government probably did its honest best, but it incurred the implacable resentment of the labor associations, and the system of election was, as they quite properly objected, calculated to result in the return in the end of the Government's nominees. As a matter of fact, Mr. Masumoto, who was ultimately chosen, is a man singularly well qualified for the post, owing to his experience in American, British and Japanese workshops, in all of which he has worked with his own hands. Notwithstanding this, the method of his election so offended the progressive labor men that he had to be smuggled out of the country like a refugee, and the police were very glad when they had seen the last of him.

But whatever may happen at Washington or in the Diet, Japanese labor is evolving rapidly. There will be a long struggle to keep the upper hand, and it is most likely that the attempts at harmonization, while perfectly sincere, will only result in the end in the precipitation of a class war. The silly fiction is industriously propagated, whether in the hopes of deceiving the foreign world or deceiving the workers is doubtful, that in Japan the workers are all regarded by the employer as his children, the ugly fact being that the Japanese factory owner feels as little personal responsibility for his employees as any in the world. The Japanese worker is warned that if he wants European wages and treatment he must develop European efficiency. That, however, does not greatly impress him for the present. He is shrewd enough to know that Japan is going to enjoy a manufacturing boom for some years, and he is determined to have his share, however modest a one it may be.

Newchwang and the Conservancy of the Liao River

The Commissioner of Customs at Newchwang has the following to say in his report for 1918 :

The large fertile plain near Chengchiatung, on the upper reaches of the Liao, formerly sent its beans, famous for their quality, to this port by boat ; in addition to the fast growing difficulties which boats have to encounter by the shallowing of the river, a branch line of the South Manchurian Railway was completed towards the end of 1917 from Shihpingkai to Chengchiatung. Preparations are being made to extend this line to Taonanfu—an entrepot for Mongolian goods, chiefly cattle, skins and medicines—and when this is completed there is danger of the loss to this port of another great portion of the Manchurian, Mongolian, and even a large part of the east Chihli trade, not only in the export of native produce but in the supply of foreign commodities.

It must not be forgotten that Newchwang is favorably situated as a distributing centre, lying as it does at the mouth of the Liao river, which, with its tributaries, affords much cheaper transportation to and from the interior than does the railway. During the past ten years this fine watercourse has become silted, and conditions have become yearly more serious. Conservancy is therefore a vital question for the port. and it is necessary to drop the *laisser aller* policy that has hitherto prevailed. If China does not want Newchwang to become a mere annex to Dairen, existing merely to carry off such heavy cargoes as coal and other minerals that do not pay to send by rail to Dairen, then she must give serious attention to this problem and not grudge money devoted to a policy that will be of such general benefit. Political differences prevented the appointment of a successor to the late Mr. W. R. Hughes, engineer-in-chief to the Liao River Conservancy, who died in January, 1918. These differences have now nearly been composed, and it is to be hoped that the new engineer will be given facilities and encouragement to deal with this serious problem.

The transportation difficulties by river are due to natural causes, those by the South Manchuria Railway to a well-understood though regrettable policy, but to what can be attributed the unfavorable treatment meted out to Newchwang by the Peking-Mukden Railway? As pointed out in the Trade Report for 1917, the service it renders compares very unfavorably with that ef the South Manchuria Railway, though it has not the reasons that influence the latter company. Railways should be regarded as servants of the public and not merely money-making concerns, and excessive profits should either be reduced or spent in development. This railway might do much to counteract the disabilities under which this port labors; for instance, a siding was made last year at Kuliuho—between Sinminfu and Mukden—on the banks of the Liao, and land levelled for the storage of cargo to facilitate the sending of grain to within the wall. If cheap rates of freight were granted from that point to Newchwang, bean boats might unload there and avoid some of the worst shallows which lie between Kuliuho and the mouth of the river. Again, special rates to and from Mukden would be of great service and would force the South Manchuria Railway to give better and cheaper service. It is recognized that, owing to the exigencies of military autocracy, the railway suffered from a shortage of cars, but what is felt is that no desire is shown to further the interests of a port that deserves some Government assistance in an unfair competition with a rival which enjoys all the advantages of the fostering care of a powerful and far-seeing Government. Occasional visits from representatives of the railway to discuss with the chambers of commerce the introduction of changes and improvements would be much appreciated.

Chiefly owing to the absence of an engineer—due to the reason explained above—no great extension to the conservancy training banks in the Lower River was made; soundings taken, however, show that the banks already completed fully justify the faith placed in them to improve the channel, though the banks do not yet extend far enough to deepen the shallowest parts of the bar.

Work on a road from Tientsin to Tungchow, which is already connected with Peking by a motor road, is shortly to be commenced. The Tientsin Motor Club have been using influence for some time to have the road built, and with the assistance of Mr. Hsiung Hsi-ling have been able to move the authorities to undertake the work. It is reported that a survey is being made, and it is hoped that the road will be open by Easter. When this project is completed motor car traffic will be opened up between Peking and Tientsin, and China will have its longest motor road. We understand that a loan of $150,000 was raised from the Banque Industrielle for construction purposes. The road will be some 60 miles in length, and will be 20 feet in width. Four bridges and numerous culverts will be required. A toll will be charged on all users of the road to pay for maintenance. Sheds will be erected at different places on the road where gasolene will be sold and repairs effected.

The Mining Industry of Indo-China

The Mines of Annam

Two mines only are actually open for exploitation in Annam. These are the coal mines of Nong-S'on and the gold mine of Bong-Mieu, both of which are in the province of Quang-Nam, about 100 kilometres south of Tourane. Deposits of zinc, antimony and iron ores have been the subject of prospecting work, but this has not been followed up to the present by active exploitation. We have nothing in particular to add to that which has already been stated with regard to Tonkin on the subject of the general conditions for the exploitation of mines, but the mines of Bong-Mieu and Nong-S'on furnish proof that the Annamite labor is far from being inferior to that of the Tonkinese : in fact they are the better workers in the colony. It is as well to add that they have been trained after the French school of miners which has not always been the case in Tonkin. Transport conditions from the interior do not appear to be any different from those which we have shown to exist in Tonkin, but it is difficult to be precise in the matter because up to now a great deal of ore has not been dealt with by way of transportation in Annam.

Coal Mines

Coal has been discovered in many spots in Annam, notably in the provinces of Quang-Nam, in the neighborhood of the deposits of Nong-S'on, in Thanh-Hoa and Vinh. In this last province, about 150 kilometres from Vinh at Cu'a-Rao there is a deposit of rich coal which it is difficult to work because of its distance away and the difficulty of transport. Prospecting work is actually now being carried out in connexion with this deposit.

The Nong-S'on Mine is situated 65 kilometres to the S.S.W. of Tourane. It is reached by automobile on the road leading to Quang-Huo (Giao-Thuy). At this point a sampan is taken to mount the course of the Song-Thu-Bong to Nong-S'on. The journey takes 1 hour 15 min. by motor car and from six to ten hours by sampan. The products of the mine are brought by sampan from Nong-S'on on the Song-Thu-Bong and the Tourane river in from 12 to 15 hours.

The concession for the Nong-S'on mine, granted for the duration of 29 years by the Annamite Government to a Chinese, passed from the latter's hands before that term expired into those of divers French proprietors and was transformed into their absolute property by a decree of January 12, 1910. For 15 years, from 1891 to 1906 these mines were the subject of serious research work on the part of the French companies who were the proprietors during this period, which corresponds with that during which there was foreseen for the port of Tourane a rapid development which has not been realized. Beginning from 1906, after the liquidation of the Société des Docks et des Houillères de Tourane, the succeeding proprietors limited their efforts to extracting the coal from the best parts of the deposits found by their predecessors and were able to obtain an average of from 10,000 to 12,000 tons.

This coal is analogous to that of the hard coal from the Bay of Ha-long and of Dong-trieu. It is a poor anthracitic coal containing about 7 per cent. of volatile matters. Its exterior markets are those of the Tonkinese coal, but up to the present the port of Tourane does not offer that quantity of freight necessary for an export of any considerable importance. As for local markets they are somewhat circumscribed by reason of the feeble development on industry in the region of Tourane.

The mine of Nong-S'on engages one hundred Annamite workers under a French master miner.

Gold Mines

Annam has at Bong-Mieu the only gold mine open to European working in Indo-China. In addition to this deposit, others, for the most part situated, like Bong-Mieu in the province of Quang-Nam, have been discovered. In particular we would mention those of Vinh-Huy, Phu-Muy and Vinh-minh which show veins of rich quartz which were formerly the subject of important working by the natives.

There are also, it is said, at Kim-S'on, in the province of Binh-Dinh, old gold mines worked for many years by the Annamites for the Court at Hué.

BONG-MIEU.—The mines of Bong-Mieu are situated 100 kilometres to the south-west of Tourane and are reached from the latter port by automobile travelling along the old mandarin road from Tourane to Qui-nho'n as far as Tam-ky and then leaving that place by a special road (26 kilometres). The principal deposit outcrops on the northern flank of the Nui-kem, a hill belonging to the Annamite chain, this small range consisting of a series of heights not more than 500 metres. At the foot of this hill the Song-Van (the river of gold) flows in the valley of Co-bai towards Bong-Mieu. The management and the offices of the mine are installed at Co-Bai. At Bong-Mieu, three kilometres west there is on the left bank of the river Song-Van and at the base of the Nui-kem the deposit called "The Field of Gold."

This region was made the subject of many ancient and important workings carried on for the profit of the Court at Hué. Work was not only carried out on the alluvial deposits of the valley, but also on the principal vein of Nui-kam and that of the Field of Gold. The first researches made by the French, 50 years it is said after the stoppage of the native workings took place in 1895. Since that time three companies having the same shareholders have with a tenacity and cleverness worthy of greater things, followed up this undertaking difficult in many respects and particularly with regard to the treatment of the ores.

The region under consideration is composed of gneiss surmounted by mica-schists running southward with a slight slope. The mine might for convenience be divided into three quarters :—that of Nui-kem, consisting of the northern bank of the hill of that name, that of the veins of "Mispickel" at Co-Bai on the right bank of the Song-Van facing the quarter of Nui-kem, and the Champ D'Or quarter near the village of Bong-Mieu on the river Song-Van and three kilometres upstream from Co-Bai.

THE FIELD OF GOLD.—This region shows numerous Chinese workings consisting of shafts of little depth rapidly reaching a pseudo-interstratified vein in the gneiss, and nearly horizontal. The pyritic ore which it contains appears to be similar to that of Nui-Kem, which will be discussed below. At present the French workers are not occupied with it.

THE VEINS OF MISPICKEL.—In this region many galleries, which to-day have fallen in, were apparently worked many years ago and show, it is said, an arsenical mineralization which appears on the whole to be richer than the sulphurous deposits in the Nui-Kem and Champ d'Or, but necessitating

a more difficult treatment. Attempts at treatment by the bromo-cyanide process have not given satisfactory results.

NUI-KEM.—Here there are three known veins, parallel to the strata. They are the "principal vein," "Vein No. 3," and the " superior vein." The latter is known from the shallow shafts sunk during the former workings dug and spread out over a large surface at the summit of the mountain. At present veins " No. 3 " and " superior " have only been the subject of workings of small importance, and exploitation has been principally carried on in the " principal vein." In passing the vein called " vertical " should be mentioned, normal to the strata, but its examination has not gone far enough to allow of its being definitely classed as a vein.

From this mine 80 tons of ore is taken out per day. This is transferred to the works at Co-Bai by an aerial cable which can easily deal with 80 tons in 10 hours by means of 24 bins each capable of holding 250 kilos.

Treatment of the Ore

SORTING.—Sorting commences at the mine, where the large pieces of sterile material are removed, and ends on the upper platform of the grinding works. Large portions of the ore are passed through the crushing mills and afterwards returned to the small ore with which it is powdered. The plant for this consists of three Dodge crushers, working 10 hours per day, four batteries of five hammers each, and a fifth in course of installation. They are able to deal with 80 tons per day.

The mechanical preparation of the powdered ores consists of their passage to the spitzlusten, the spitzlasten and the Ferraris table. These, to the number of six, separate the galena containing free gold and giving concentrates of iron pyrites and quartz of 30 to 50 per cent. of pyrites, which are sent to the iron tubs.

The galena with the free gold goes to a special table for the separation of the gold.

The muds evacuated by the spitzlusten are taken, after a new classification, to four other trapezvidul Ferraris tables with grooves which again separate out the galena by concentrating the fine pyrites to 60 per cent. These latter are treated in special cement tubs. The sandy refuse from these tables is sent to the Wilfley tables, which recover even more of the fine pyrites.

THE CYANIDE PROCESS.—The dissolving of the gold by cyanide of potassium is done by percolation, in eight tubs made of sheet iron arranged in series of two, one above the other. Precipitation is carried out by the ordinary process in zinc troughs.

The treatment, summarily described above, gives results limited by the grinding which does not normally exceed 2,000 tons per month. The undertaking wishing to increase its output, modifications are being carried out at the works. These consist principally of the increase of the concentration works and the improvement of the cyanide process by the addition of new tubs which have been put in place and which will permit of a prolongation of the action of the cyanide on the concentrates and enable them to deal with a larger quantity of the latter. The carrying out of these projects will permit of an increase in crushing of a good third and consequently production will be increased by that proportion.

Further, the treatment of the concentrates by the cyanide process extracts only from 70 to 72 per cent. of the contained gold and the residues still hold from 5 to 6 grammes per ton which it is proposed to recover. With this end in view the residues will be submitted to a new concentration, crushed anew and returned to the iron tubs. It is expected to be able to deal with 10,000 tons per annum.

The motive force necessary to the mine and works is supplied from a central electric plant established on the Song-Van, about one kilometre upstream from Co-Bai and using a drop of 30 metres in 800 metres with a minimum supply of 500 litres in the dry season. The works consist of a Neyret-Brenier turbine of 100 H. P. and two alternators supplying a three-phase current of 550 volts.

The personnel of the mine comprises six Europeans and about 400 Annamites, of whom 270 are miners, etc., and the rest laborers in the various workshops.

Various Deposits

Zinc Ore

THE DEPOSIT OF DU'C-BO.—We will deal, first of all, with the deposit of Du'c-Bo, 50 kilometres S. S. W. of Faifo, the chief town of the province of Quang-Nam, which shows a vein of sulphides of zinc, copper and iron in mica schists. The vein is a column of massive blende with an available thickness of 10 metres and about 25 metres following the slope and 300 metres in direction. In depth the works have been interfered with by water for lack of means of drainage. Along its length the vein shows a mineralization chiefly pyritic and it would be interesting to continue the prospecting of this deposit which seems to contain other rich veins of blende.

THE QUAN-SO'N DEPOSIT.—This is about 50 kilometres S. W. of Thanh-Hoa in the province of that name and presents a mass of varying importance and impregnations of blende and galena in the limestones of a Triassic medium, in the neighborhood of their contact with schists of the same age. Works of a fair importance have been carried out in this deposit and some hundreds of tons of ore have been abstracted. There should also be mentioned, in the province of Dong-Hoi, about 10 kilometres S. S. W. of the chief town of that province, the deposits of Duc-Thi made up of abundant impregnations of calamine and blende in the limestone, and by a vein, followed for some metres only of calamine, also in the limestone.

Lead Ore

At Moa-Ha (Vinh province), abandoned since by reason of drainage difficulties, there was an ancient Chinese mine of argentiferous lead and blende.

Copper

Copper has been discovered at Luong-So'u (Thanh-Hoa) and at Che-Cao (Vinh) in the form of sulphides and oxides amongst the sand.

Antimony Ore

A deposit of sulphide and oxide of antimony in the form of blocks scattered in the clay of the surface covering the schists has afforded opportunity for a little working at Ta-Soi, 150 kilometres N. N. W. of Vinh. Samples of antimony have also been found at a point, not precisely indicated in the upper course of the Cam-Lo (Quang-Tri.)

Iron Ore

Numerous layers of iron ore have been noticed on which there have been slight native workings. In particular in the province of Vinh there is the deposit of " The Pagoda Ne," situated 20 kilometres north of Vinh, which furnishes a fine ore (haematite and limonite) containing 60 per cent. of iron and the deposit at Ve-Chinh, 10 kilometres S. S. W., where there is to be found a vein of iron ore with a large proportion of manganese in the quartzites which are themselves penetrated by irregular veins of iron and manganese ores forming locally by their meeting a mass of some importance. There are also numerous deposits in the province of Quang-Tri on

the shores of the river of Cam-Lo, notably at the "Col des Canons" and at Pho-trach. At the latter some small works which are running seem to have a certain importance and furnish a good magnesite containing 65 per cent. of iron. There are also abundant deposits of iron in the provinces of Quang-Ngai, Quang-Nam and Ha-Tinh. Deposits of chrome-iron in the form of a black sand from the disintegration of rock nearby have been discovered in the province of Thanh-Hoa at Van-Am and Nui-Nua. Titaniferous sand is found in the bay of Cam-Ranh at Pagoda Point. There have also been found in the provinces of Tanh-Hoa and Vinh some deposits of phosphate of lime similar to those of Tonkin.

The Mines of Laos

There does not exist at the present time--and there has not existed since the French occupation—any mine in regular operation at Laos. Numerous mineral deposits have, however, been discovered but up to the present the difficulties of transport and labor appear to have caused hesitancy on the part of the French to study them deeply. Only the seams of gold and tin, which the natives have worked since time immemorial and which are capable of supplying a small tonnage at an elevated price, easily transportable and easily supporting the cost of transport, have from 1893 to 1903 engaged the attention of the French. During this period many French companies obtained large provisional concessions which should have been transformed, under certain conditions to be fulfilled in a certain period, into definite ownership; but, with the exception of one or two, these companies did not fulfil the conditions which were imposed upon them and were deprived of their rights. In addition to the gold and tin the other deposits have not yet been made the object of research.

The Tin Mines

HIN-BUM MINE.—The only deposits of tin noted in Laos are those in the region of Hin-Bum at the places called Ban-Ta-Kua, Bo-Neng and Na-Phan on the Nam-Pa-Ten, an affluent of the Nam-Hiu-Bum. Small workings have from time immemorial been carried out on these by the natives who have produced from 10 to 15 tons of metal per annum which was bought by the Chinese merchants at Pak-Hin-Bum and who exported it to Siam or employed it, it is said, for weighting fishing nets.

The natives work on one hand on the sand of the river and on the other in the clay which contains blocks of the ore. The natives sort the ore minutely on the spot and then treat it in furnaces similar to those which have been described in connection with the Thien-T'uc mine. The metal obtained contains from 96 to 97 per cent. of tin.

This deposit was the subject of investigations, from 1899 to 1903, undertaken by the Société des Etains de Hin-Bum. From these investigations it was shown that the cassiterite was very unequally distributed throughout the deposit without any differences in appearance which would make a rapid sorting easy, which is necessary for an industrial venture of this importance.

Such were the principal reasons, it is said, why the undertaking was abandoned. It is reasonable to think to-day that these reasons have not the same value, for great progress has been made in the enrichment of metals since 1903. In addition, perhaps a deeper study of the deposit would allow of the determination of rich zones and discover veins of value in the region. The immense amount of tonnage of the mineralized mass in this deposit makes further investigation desirable.

The Gold Mines of Laos

From the earliest times the inhabitants of Laos have exploited the auriferous alluvial deposits consisting of gravel and sand carried by the rivers, of old alluvial deposits, and of deposits at the bases of the hills. The real alluvial deposits are to be found in the beds of certain water courses above banks of rocks which have formed barriers to the streams. These are to be found principally in the upper course of the Meh-kong at Luang-Phrah-Bang, which were made in 1904 the object of a concession on which no work has been done.

Hardened alluvial deposits are the most frequent and are exploited by the natives at Dong-Kieu, Hat-Kam, on the Meh-Kong, and up the stream from Ven-Chan and also in the valleys of the Nam-San (Veng-Chan), the Sebang-Hien (Savannakhet), the Houei Sang-Ngoi and Kou-tha (Cammon), the Nam-Ngun, etc. All the deposits which we have just mentioned have been conceded to French companies which to-day have been deprived of their rights and who, for the most part, have done no serious work on them. It is possible to mention, however, the commencement of investigations made on the alluvial deposits of the Nam-San river, by the Compagnie Miniére et Industrielle, which after having transported to the spot, at great expense and trouble, a large dredger, was put into liquidation and abandoned all its material without having achieved and, perhaps, even undertaken the prospecting of the deposit.

Hillside alluvial deposits, worked by the natives, have been noted in the Pou-Long massif, between Pak-Beng and Xieng-Khong.

The alluvial gold deposits of Laos have, up to the present, only showed relatively low gold contents, but the rare prospectings which have been carried out have always been hurried and limited in extent and have never got down to bed rock on the contact with which it is hoped to obtain a higher proportion of gold.

The Mines of Camboge

Precious Stone Mines of Phai-Linh

One mine alone is in operation in Camboge and that it is the mine for precious stones at Phai-Linh, about 60 kilometres to the S. W. of Battambang on the Siamese frontier conceded by the Siamese Government before the cession of the Battambang territory to France. It is worked even now by a colony of Burmese, but after having enjoyed 20 years of great prosperity this mine now seems to have been declining for some years. The gems, sapphires and rubies, are met at a depth of from 2 to 3 metres in a seam of alluvial clay reposing on crystalline rocks, the nature of which varies at one point from another, in such a fashion that, through fault of having found these precious stones encased in the rocks on the spot, their origin is at present unknown.

Iron

The iron mine of Phnom-Dek, situated 70 kilometres north of Kompong-Thom, was investigated in 1882 by Fuchs, who described it in his "Memoires sur les gites de L'Indo-Chine" (Annales des Mines, 1882), as a huge rich mass traversing a hill formed of eruptive rocks. This favorable opinion has been confirmed by recent works carried out by a company which contemplates the eventual treatment of the mineral with electric furnaces furnished with power from the falls of the Meh-kong and wood charcoal from the Camboge forests.

* * *

The report is signed by H. Lantenois, Engineer, Director of the Service of Mines, and M. Saurel, engineer. It has been translated from the bulletin of the *Comite d'assistance aux Travailleurs Indo-Chinois*.

Shanghai Trade in 1918

Port Holds First Place and Transacts Record Business

"In spite of the continued internal disturbance in China, the scarcity of tonnage and the corresponding rise in freights, the increasing difficulty in obtaining machinery and other essentials from abroad, the tightness of money, and the various other strangling influences on trade incidental to the war, the port of Shanghai has shown during 1918 the most unmistakable outward signs of continued and increasing material prosperity. . . . Never was more money spent on unessentials and amusements by native and foreign community alike, never were rents higher, houses more difficult to obtain, hotels fuller, shops better patronized, or street traffic at once denser or more rapid in Shanghai than during the final phases in the Great War."

These, the opening words of the Shanghai Commissioner of Customs in his report of trade in 1918, with some slight modification would serve as well for his next report; except that for 1919 he will have to note that houses were full and almost impossible to obtain, that hotels were overflowing with guests and newcomers spent days in searching for a shelter, that shops were filled and emptied as quickly as the goods could be turned over, that hundreds of new motor cars have made the congestion of the narrow streets worse than that of lower Manhattan Island, and that the only bar to a trade that is seeking to break all records has been the still crippled state of communications. For Shanghai is thriving like a New World city. Shanghai traders are all bulls on the market; business men are trading and working in the future, and that future never seemed so full of promise.

"The big staple industries of the port—cotton mills, docks, shipping—have perhaps seldom, if ever, had a more prosperous year than in 1918, and it would perhaps be difficult to name any particular branch of industry in which there was not good reason to be satisfied. . . . If there is a class of operators who have failed to realize the large profits. . . it may be that importers in a small way of business, who could not afford the big risks and occasional losses entailed by an uncertain exchange and the submarine danger, have suffered. Yet even most of these have probably succeeded beyond all expectations. Of all business men, however, Japanese merchants have reaped the biggest harvests. Operating from a gilt-edged base within, comparatively speaking, a stone's throw, with no uncertainties incidental on telegraphic delay, no risk of loss at sea, with favorable freight conditions, with the certainty of record profits and quick returns, they have found China generally and Shanghai in particular a veritable El Dorado." Japanese exports and imports were nearly 137 million taels, an advance of 31 millions over 1917 and nearly double the 1915 total. Japanese interests have acquired during the year two large cotton mills and three valuable wharf frontages. There are now six Japanese banks where in 1914 there were but two.

The gross value of the trade of the port was 627 million taels, an advance of nearly 47 millions over 1917, itself a record; the increase in sterling amounting to no less than twenty million pounds.

Shanghai has, indeed, been an El Dorado to traders. Japanese business men have reaped a great harvest; Chinese merchants have rested in safety under a foreign government, in China but as safe from the horrors of brigandage and strife, which have struck so heavily at trade in the interior, as if China were oceans apart from Shanghai; and Europeans and Americans have carried on trade freely without the local stagnation of business, the rationing and privation, the self-denial and suffering which have bee accepted by their nationals in their homelands.

Shanghai, being a cosmopolitan city, and besides serving as asylum for thousands of wealthy natives who have prudently moved to its precincts to escape the uncertainties of existence of the interior, has a wide variety of tastes and incidentally a great deal of wealth with which to gratify its tastes. So its imports, which represent roughly half the total imports of China, include thousands of items which are rarely found in the conventional lists of "piece goods, hardware, cotton socks, cigarettes, kerosene, lampware and sundries" which monotonously appear in the trade returns of the interior ports. The gross value of foreign imports during 1918 was nearly 221 million taels, an advance of 6 millions over the 1917 total. Owing, however, to the shortage of tonnage, the volume of imports shows a very considerable shrinkage compared to the latter year's importations. In no branch is this more apparent than in cotton goods, the value of which represents almost a third of the total value of all foreign goods imported. The quantity of cotton piece goods of all kinds imported during the year was not more than one-seventh of the importation for 1913, which may be considered to be Shanghai's record year. The piece goods trade as a whole was hampered by the fighting and wholesale brigandage in the west of China.

The gross value of exports was 175 million taels, an advance of 35 millions over 1917, also a record year. The increase is an all-round one, affecting, however, the coastwise trade to a greater degree than the foreign trade. But, as it is hardly necessary to point out, this satisfactory result is due to special causes and is not necessarily a healthy sign. In the first place the volume of trade shows no very marked nor general increase, and in the second place the high rate of exchange ruling throughout the year was powerless to strangle export trade, solely owing to the enormous prices paid abroad during the war for raw material and foodstuffs. On the other hand, the demand for foodstuffs and raw materials in Central Europe is likely to be a most pressing one for some time to come, and until the world can approximate itself more nearly to its former equilibrium we are not likely to see any rapid resumption of pre-war prices for China produce.

That the Shanghai market itself absorbs a huge proportion of its trade is shown by the detailed statistics of the total trade of the port:—

	Foreign Goods. Gross Tls.	Net Tls.
Imported from Foreign Countries and Hongkong...	214,967,907	
Imported from Chinese ports	5,932,145	
	220,900,052	
Re-exported to Foreign Countries and Hongkong...	12,550,756	
Re-exported to Chinese Ports (chiefly to Northern and Yangtze Ports)...	119,965,108	
	132,515,864	
NET TOTAL FOREIGN IMPORTS		88,384,188
	Chinese Produce	
Imported (chiefly from Northern and Yangtze Ports)	231,104,855	
Re-exported to Foreign Countries and Hongkong...	128,054,968	
Re-exported to Chinese ports	42,525,049	
	170,580,017	
NET TOTAL CHINESE IMPORTS		60,524,833
CHINESE PRODUCTS OF LOCAL ORIGIN EXPORTED TO FOREIGN COUNTRIES AND HONGKONG	73,235,875	
CHINESE PRODUCE OF LOCAL ORIGIN EXPORTED TO CHINESE PORTS	101,853,600	
TOTAL EXPORTS OF LOCAL ORIGIN		175,089,475
GROSS VALUE OF THE TRADE OF THE PORT	627,094,382	
NET VALUE OF THE TRADE OF THE PORT (*i.e.*, Foreign and Chinese imports less re-exports, and Chinese exports of local origin		323,998,501

Engineering, Financial, Commercial, and Industrial News

RAILWAYS

Light Railway in Korea.—The "Seoul Press" reports that by the promotion of Mr. S. Sakagami, and some other representative citizens of Kunsan, official permission has been granted a company to run a light railway between a point opposite Kunsan and Ansong, 98 miles in length. The railway is chiefly to transport goods in those localities.

Wider Railway Cars in Japan.—As one measure for increasing the capacity of railway cars to meet the continual rise in traffic, the Japanese Imperial Railway Board is building passenger cars nine feet two inches in width, which is eight inches wider than those now in service. When a sufficient number have been built, they will be tried out on the Tokaido line.

The Canton-Shiuchow Line.—An express train is now running between Shiuchow and Canton and makes the journey in about six hours. Formerly there was only one train each way daily, and it took nine hours to cover the distance.

A Switchback Railway in Kyushu.—The "Nagasaki Press" reports that an application has been made to the authorities by capitalists in Nagasaki and Moji, Japan, for permission to lay down a switchback railway between Nagasaki and Mogi. The capital is to be half-a-million yen, and it is intended to carry passengers and general goods. Over ten cars will be employed in the service.

A Railway to Rokkosan.—The Hanshin Kyuko Company, which is building a line between Kobe and Osaka for running express electric cars, has under consideration a project for laying a cable-car line from the village of Rokko (near Kobe) to the summit of the mountain, a distance of 3½ miles, to give facilities for reaching Rokkosan, says the "Japan Chronicle."

Messrs. Takei and Tsubota, of Kobe, have two proposals, one for a line to Rokkosan and one for a line to Arima, the latter being merely an extension of the former. The estimated cost of the Rokkosan line would be Y.170,000 and of the whole line as far as Arima Y.277,000. The distance to Rokkosan is put at 5m. 30c. and to Arima at 8m. 4c.

S. M. R. to Expand Enterprises.—The Japanese intend to reorganize the South Manchurian Railway and the capital is to be increased in order to develop enterprises in the three eastern provinces. These include mining and forestry rights and the building of four new railways. The Railway Co.'s estimates for 1919, recently passed by the Japanese Government, contain an item of over Y.2,000,000 for enterprises on the main line.

Progress of Malay States Railways.—The expenditure of large sums to cover railway extensions, the purchase of new rolling stock, the erection of railway stations and the construction of new bridges is being planned by the Government of the Federated Malay States. Fourteen locomotives have been ordered from the United States. In 1918 a through train service with Siam was inaugurated but, owing to the shortage of engines and rolling stock on both Siamese and F. M. S. lines, the development of through traffic between the two countries is somewhat slow. Considerable progress is being made with the East Coast Railway which will ultimately link up the Eastern States with Siam. There is a great demand for steel for construction purposes, especially in connection with the erection of new railway bridges. An increased demand also prevails for motor transport; large quantities of motors have, during the past few years, been imported from the United States.

Projected Railways in Korea.—The Oriental Development Company and some other Japanese capitalists have applied for permission to establish a railway company to build railways to develop West Korea. Another company named the Kokusen Tetsudo Kaisha (North Korea Railway Company) has applied for permission to organize to build railways in North Korea. It is reported they propose first to connect Lajin, a port in North Hamkyong Province, with Hunkei, viâ Ungkeui, Kyongheung, and Keumdong, about 83 miles. A second part will start at Old Kanwon, and reach Hoilyong on the Chongjin-Hoilyong Railway, a branch connecting with the Tienpaoshan Light Railway viâ Onsong and Chongsong. A survey of the route has already been made by Mr. Asoh, a mining magnate in Korea, so that it is hoped that the plan will be realized at no distant date.

Dutch East Indies to Build 10,000 Miles.—The Colonial Government of the Dutch East Indies proposes to build 10,000 miles of railways during the next 15 or 20 years.

Far Eastern Railways and Markets.—There will inevitably be a great future expansion of the Chinese system of railway communications. Recent reports by American investigators in the East have repeatedly emphasized the desirability of increasing China's railway mileage. American manufacturers of railway materials and equipment may reasonably expect to share largely in supplying the needs of the present Chinese railways and those whose construction is contemplated. There has just been published by the Bureau of Foreign and Domestic Commerce a comprehensive book, with 339 pages and 46 illustrations, entitled: "Far Eastern Markets for Railway Materials, Equipment, and Supplies." The author is Trade Commissioner Frank Rhea, who recently conducted an investigation of this subject in China, Japan, Korea, and the Philippine Islands. As regards railway equipment in Japan, Mr. Rhea believes that, in the future, the Japanese are likely to be competitors of the United States rather than customers. The State-aided Japanese manufacturers will be further assisted in their efforts by their cheap supply of labor and cheap sources of materials.

China has at present about 6,657 miles of railway, of which 3,905 miles represent Chinese Government railways, 234 miles private railways, 112 miles provincial railways, 50 miles industrial railways, and 2,356 miles foreign railways that have been built with foreign capital aad are now subject to foreign control and operation. The Government railways are under the Ministry of Communications. The ministry has made considerable progress in what may be termed regulatory requirements, such as those making uniform the railway accounts, the operating organization, and, to a certain extent the operating methods. There has been some progress toward through handling of traffic and interchange of equipment, but very little actual progress has been made in consolidating these lines under one central administration so that they can be developed and operated as a whole to the best advantage—in which arrangement there would be a number of very real possibilities of obtaining improvement in the efficiency of both facilities and management. Trade Commissioner Rhea is an advocate of the unification of the Chinese Government railways, regarding this as the best solution of a difficult situation.

Receipts from Japanese Government Railways.—It is gazetted that receipts from Government railways during August amounted to Yen 24,284,959, Yen 14,155,500 from passengers and Yen 10,129,468 from freights. These figures represent an increase of Yen 2,726,663 in receipts from passengers, and of Yen 1,966,434 in that from freights, as against the same month last year. The average income per mile per day amounted to Yen 128.28, an increase of Yen 23.34.

Shanghai Tramways.—The following is the Traffic Return of the Shanghai Tramways (Foreign Settlement) for the month of September, 1919, and for 9 months ended September 30, 1919, with figures for the corresponding periods last year:—

	September, 1919 Mex. $	September, 1918 Mex. $
Gross Receipts	186,210.75	156,872.48
Loss by currency depreciation	47,364.88	36,658.79
Effective Receipts	$138,845.87	$120,213.69
Percentage of loss by currency depreciation ...	26.66	24.53
Car Miles run	395,785	347,940
Passengers Carried	8,564,820	7,254,206

	9 months ended 30th September, 1919 Mex. $	9 months ended 30th September, 1918 Mex. $
Gross Receipts	1,513,265.21	1,258,313.99
Loss by currency depreciation	375,661.66	283,323.77
Effective Receipts ...	$1,137,603.55	$974,990.22
Percentage of loss by currency depreciation...	26.05	23.79
Car Miles run	3,355,940	3,062,999
Passengers Carried ...	68,953,402	57,495,057

SHIPPING

Whampoa Dock Launches Big Vessel.—The Hongkong and Whampoa Dock Co., Hongkong, launched in October the s.s. *War Trooper*, a vessel of 8,000 tons deadweight with 11 knots speed. She is the third standard vessel launched by the dockyard within recent months, the other two being the *War Drummer* and *War Bomber*.

Lower Transcontinental Freight Rates.—Merchants in China are pleased at the knowledge that transcontinental freight rates in the United States have been reduced to a parity the Atlantic and Pacific water rates to the Far East. With the large number of bottoms now in trans-Pacific service this means that cargo will move to Pacific ports for shipment to China instead of moving to the Atlantic and waiting for the infrequent sailings for the sake of the former difference in rates.

Dollar Line Buys Ships.—A 14,000-ton steamship has been added to the fleet of the Robert Dollar Company. With the acquisition of this vessel, the *War King*, the line will have six big cargo carriers on the trans-Pacific run in the spring of 1920. The *War King* is a steel twin-screw ship, built in 1917 by tne Kawasaki Dock Company of Kobe. Her gross tonnage is 9,394, and her dead-weight 14,000 tons. Another late acquisition has been the *War Melody*, which has been rechristened *Grace Dollar*. The Company plans the construction of 4 14,000-ton passenger steamers as well.

New Trans-Pacific Fleet.—Los Angeles manufacturers and merchants have formed an association and decided to build eight ships to cater for their trade with the Far East. They are making Hongkong and Manila the chief ports of call of this fleet.

O.S.K.'s Profits.—The Osaka Shosen Kaisha, whose enormous shipping profits during the War period were given in an article in the April number of the REVIEW, has not fared so well since the armistice. Their report for the year ended June 30, 1919, states that a heavy blow was received through the decrease in cargo and the sudden fall in freight reports. "To sum up," says the report, "the shipping circles being exceedingly depressed during this term, the company's business sustained a severe blow, while expenditures still amounted to an enormous a sum as before; but for all this fair results were realized." During the term the company operated 151 steamers aggregating 380,892 tons, on 43 home and foreign services. Revenue from freight and passengers in the period amounted to Y.66,679,609, and miscellaneous sources of income brought this to Y.73,581,788; making a net profit of Y.26,059,960. This total is Y.9,806,907 less than for the same period of last year and Y.25,280,985 less than profits of the second half of last year.

Chartered Ships Released.—We understand that six Japanese vessels with an aggregate tonnage of 21,893, chartered by the French Government, will be released between October and January next. As will be remembered, during the war Japan chartered 23 ships aggregating about 150,000 tons, to America and 6 ships to France. All ships chartered to America were returned before July last, but those chartered to France have not yet been released on account of the great dearth of bottoms from which that country has been suffering. Now that the shipping situation in France has improved the French authorities have arranged to release the Japanese ships under charter.

Shanghai Shipping in 1918.—During 1918 the total number and tonnage of vessels which entered and cleared at Shanghai was 11,630 vessels of 13,746,123 tons, showing, when compared with 1917, a decrease of 659 vessels and 1,630,890 tons. The percentages of the various flags were: 37.3 per cent. Japanese; 32.5 per cent. British; 21.4 per cent. Chinese; 4.1 per cent. American; 1.6 per cent. Dutch; 0.8 per cent. French; 0.7 per cent. Norwegian; and 1.6 per cent. Danish, Italian, Russian and Swedish.

New Fleet for O.S.K.—The Osaka Shosen Kaisha is credited with the intention of building 500,000 tons of new ships. This company made great efforts to extend its overseas operations when the world war was still in full swing and ordered a number of freighters from the Osaka Ironworks, and these ships have nearly been completed. The Osaka Shosen Kaisha has been emulating the Nippon Yusen Kaisha, which recently announced a plan for building 69 new ships, aggregating 515,000 tons. In order to strengthen the position of the O.S.K. against foreign competition, it is reported that the management contemplates launching a plan for constructing 500,000 tons of new ships. For this plan at least Y.150,000,000 will be required, and the source for the necessary funds is under consideration by the management. It is reported from Osaka that calls will be made on the unpaid portion of the capital next February or March, and that the capital will be increased. The present capital amounts to Y.50,000,000, and it is said that it will be increased to either Y.100,000,000 or Y.150,000,000. The larger increase is more favored, but it is not expected that a definite decision will be made before next March.

Taikoo to Build Godowns.—A scheme is now under progress at Pootung (Shanghai) by Messrs. Butterfield & Swire to erect a number of new godowns especially for re-export cargo. Cargo brought from the Yangtze ports and elsewhere, and destined for re-export again to Hongkong or other ports will be stored in these godowns so that the matter of re-loading the cargo will occupy less time than if it were stored, as is now the case, at the back of some other godown used for general cargo, and perhaps not easy of access owing to other cargo being stowed there as well. Work is now proceeding on land reclamation and coolies are employed on this work. The plans for the godowns are not yet finished, but it is expected that work will be commenced on them as soon as the land reclamation scheme is finished.

Semi-official Steamship Co.—It is reported that a navigation company is being formed by Chinese merchants and the Government to operate the vessels seized from the Germans. The capital is to be $10,000,000, half of which will be put up by the Government. The ships will go in as part of the Government's subscription.

Japanese Freight Rates.—From October 1, the N.Y.K. raised its freightage on its Japan-Shanghai homeward service, on sundries from $9.50 to $10 per ton; on cereals from 36 to 40 cents per picul; and on raw cotton from $1.50 to $1.75. Shortly its outward rates will be raised by 10 to 15 per cent.

N.Y.K. Plans Big Program.—The Nippon Yusen Kaisha has formulated a plan, under which sixty-nine steamers with an aggregate tonnage of 515,000 tons are to be built in a period of five years at a cost of Y.220,000,000, says the "Chugai Shogyo." Of the above number, thirty-six with an aggregate tonnage of 382,000 tons, will be ocean liners serving the purpose of new fine cargo and passenger boats on the Liverpool, North America, Shanghai and other lines.

Besides, the company has ten steamers with the aggregate tonnage of 90,000 tons to be completed in the period from the latter part of 1919 to the first half of 1920, a part of them being already in actual service. When these two flotillas are put together, the total tonnage to be procured by the N.Y.K. in the period from 1919 to 1925 reaches 610,000 tons, involving the cost of Y.250,000,000 or Y.260,000,000.

The Trieste Lloyd.—The old regular service between the Adriatic and Far East, which used to be maintained by the Austrian Lloyd, will be resumed by the "Trieste Lloyd," an Italian Company. The service from Japan will start about the end of November with the steamer *Nippon*, followed by the *Persia* about a month later. The steamers at present are still under requisition by the Italian Government, and the line has already been made a member of the Homeward Freight Conference.

Indo-China S.N. Co.—At the 38th ordinary general meeting of the Indo-China Steam Navigation Co., held at Hongkong in October, a final dividend of 3s. on the preferred and £2 10s. on the deferred shares, each of the denomination of £5, was declared, while £10,048 8s. 3d. was carried forward to next year's account.

The Admiral Line.—According to the "Manila Times," the Pacific Steamship Company, commonly known as the Admiral Line, intend that Mr. J. J. Gorman, general oriental agent of the Line with headoffice at Hongkong, will be transferred to Shanghai, "which port has been selected as the most suitable for the general office of the Far Eastern business," Mr. F. C. Chorman, formerly with the China Mail Steamship Co., has been appointed as manager of the Hongkong agency. The same paper says that the Company is negotiating for the purchase of eight steamers with the Federal Shipping Board, the proposed deal involving an outlay of $18,000,000. Plans are under way to increase the capital stock of the company in order to make the deal for the acquisition of this additional tonnage.

New American Service.—The Toyo Kisen Kaisha contemplates opening two new American shipping services. Some time ago the Line ordered three freighters of 8,000 tons deadweight each, of the *Choyo Maru* type, and two freight and passenger combination steamers of 11,500 tons deadweight, of the *Anyo Maru* type, from the Mitsubishi Shipyard, of Nagasaki. When these vessels are completed, it is said that the company will build five additional freighters of the *Choyo Maru* type. The three freighters of the *Choyo Maru* type which have already been ordered from the Asano Shipyard, will be completed by next March or April. The Toyo Kisen Kaisha is credited with an intention of using these ships to extend the present North American extra line to New York viâ Panama. It is also said to be the intention of the Toyo Kisen Kaisha to open a new direct service from Kobe to San Francisco. It is expected that the *Siberia Maru*, 11,785 tons, which sailed from Kobe on October 13, will be used for this purpose.

T.K.K. to Build many Steamships.—That the Toyo Kisen Kaisha will hereafter attach greater importance to its freight service was the keynote of the address made by Mr. Soichiro Asano, President of the company, at a general meeting of its shareholders recently. The meeting passed the statement of accounts for the past business term, details of which were given in a Japanese paper. The rate of dividend proposed was 20 per cent., or 10 per cent. less than the rate for the previous term. Some shareholders proposed that Y.1,000,000 be set aside from the Fund for Equalizing Dividends in order that the dividend could be increased to 30 per cent., but this amendment was rejected, the original statement of accounts being finally adopted. In his address Mr. Asano said that eight freighters had already been ordered from the shipyards, the five additional freighters would soon be ordered and that two passenger steamers of 25,000 tons each would be built in 1921. These ships will be used for the opening of new services.

SHIPBUILDING

Shanghai D. and E. Co.—During the past twenty months, vessels averaging a deadweight tonnage of 22,850 tons have been constructed and launched from the Shanghai Dock and Engineering Company's yards, and vessels now under construction average 13,000 tons so the Dock will be occupied for some time to come, even with the work on hand.

Ship Iron High in Japan.—Small Japanese dockyards are now in difficulties owing to the greatly increased cost of building. These small dockyards are finding it difficult to make both ends meet in view of the fact that while their finances are limited, the prices of raw materials, such as iron, are very high. They cannot secure sufficient supplies on the open market, as the sellers demand very high prices—about Y.300 per ton.

Launching s.s. "War Diadem."—A large and representative gathering met at the Pootung works of the Shanghai Dock & Engineering Company on October 11 to witness the launch of the first British Standard ship ever built in China. The vessel with this honor was the *War Diadem*, one of three vessels started for the British Government but which are to be transferred to a Greek shipping concern. The steamer measures 331 feet six inches between perpendiculars by 46 feet, six inches, moulded breadth and 25 feet, six inches, moulded depth to upper deck. Designed to carry a large general cargo on moderate draft the vessel embodies all the latest improvements in steel steamship construction based on the experience of practically all the shipbuilders and engineers in Great Britain. Since the conclusion of the war some rearrangement of essential features was desirable and the vessel will be fitted with steel lower masts and telescopic top masts to suit the Manchester Canal requirements instead of the war type of folding masts so necessary for evading the submarine observers.

The accommodation for the officers and crew is large and comfortable while the facilities for handling cargo are very complete, including four steam winches on the upper deck, one steam winch with extended ends on bridge deck and one steam winch on the poop. Two derricks are fitted at each hatch on the main deck, each capable of lifting five tons, and two steel derrick posts on the bridge are fitted with derricks to lift three tons. There are also two derricks on the poop, aft. Powerful steam steering gear is fitted at the after end of engine room and hand steering gear aft. A heavy steam windlass is fitted on the forecastle. The vessel is lighted throughout with electric light, and steam heating in all the cabins and a powerful Marconi wireless equipment will keep those on board in touch with the outer world. The propelling machinery consists of one set of triple-expansion surface condensing engines, having cylinders 25 inches, 11 inches and 68 inches diameter by 45 inches stroke and fitted with "Edward's" air pump, and feed pumps, all round type steam reversing engine and steam turning engine, while steam is generated in three large cylindrical multitubular boilers fitted with Howden's forced draft and designed for a working pressure of 180 pounds per square inch. The auxiliaries include independent centrifugal circulating pump, Weir's type steam feed pumps, feed heater and feed filter, steam ballast pumps, steam sanitary pumps, evaporator capable of supplying 25 tons of fresh water per day, contraflow with condenser and other fittings incidental to a vessel of this class. A direct coupled dynamo will be placed in the engine room for lighting and wireless requirements. The vessel is built to Lloyd's highest class. The building berth just vacated will be occupied without delay for the construction of a new steamer 350 feet long for the China Merchants' Steam Navigation Company's service.

Largest Battleship Made.—The battleship *Nagato*, the keel of which was laid at the Kure naval dockyard on August 28, 1917, will be launched on November 9. She has a displacement of 40,000 tons. The *Nagato* will be armed with 16-inch guns having a 30-mile range. Her engines will be able to develop a speed of 25 knots. She will carry several aeroplanes and will be armed with half-a-dozen anti-aircraft guns. As compared with the largest warships of other nations, says the "Japan Advertiser," the *Nagato*, when completed will be the largest fighting ship afloat.

Launches at Kobe.—The launch took place on October 10, at the Kobe Mitsubishi Yard of No. 25 submarine, in the presence of Vice-Admiral Oguri and his adjutant from the Kure Naval station. On October 8, a launching ceremony took place at the Kawasaki Dockyard, Kobe, of the steamer *Tasmania Maru* (4,100 tons). Another steamer the *France Maru* (5,800 tons) was also launched early on the morning of October 10.

Cost of Shipbuilding in Japan.—The present cost of ship construction in Japan (says the British Consul-General at Kobe) is approximately Y.250 per ton for cargo steamers and Y.300 per ton for tank steamers. The cost in the United States of America, some time after the armistice was declared, was reported at $109.57 per ton for cargo steamers and $138.05 for tank steamers. In view of the higher cost obtaining in Japan, tho Kawasaki Dockyard Co. have been unable to accept orders coming from America. The cost of tonnage in Japan sank at one time to the figure of somewhere about Y.200, but the prospect of increased requirements in view of reprovisioning enemy countries created a more favorable market. The present figures, which are higher than those recently ruling, are still well below the price offered by the Kokusai Kisen Kaisha (International Steamship Co.) which have purchased at Y.350.

New Engineering Works' Output.—During the twelve months ended September 30, the New Engineering and Shipbuilding Works, Shanghai, has constructed one tugboat of 250 tons gross, three cargo lighters of 510 tons gross total, two steam launches aggregating 65 tons, fire motor boats aggregating 55 tons gross and one pontoon of 40 tons gross. Vessels now under construction are four cargo steamers aggregating 5,500 tons gross, one tugboat of 250 tons gross and three lighters aggregating 700 tons gross. The total tonnage constructed during the year was 920 tons gross, and the tonnage now under construction aggregates 6,450 tons gross.

Japanese Launchings.—Investigations made by the Department of Communications show that the number of ships of 1,000 tons and above launched in Japan during September totalled eight with an aggregate tonnage of 42,080. The names of these ships, their tonnage and shipyards undertaking the construction are as follows :—

Name		Tonnage	Dockyard
Boston	Maru	...5,520	Asano
Delagore	,,	...7,150	Mitsubishi (Nagasaki)
Italy	,,	...5,860	Kawasaki
Scotland	,,	...5,860	,,
Yonan	,,	...7,300	Osaka Iron Works
Eastern Guide Co		...3,770	Yokohama
Shosho Maru No. 10		1,100	Yoshiura
Malta Maru...		.. 5,520	Asano

Again, the number of ships of 1,000 tons and above launched between January and September last totalled 93 with an aggregate tonnage of 403,594. These figures represent a decrease of 29 in the number and an increase in tonnage of 50,188 as against the corresponding period last year.

PORTS, HARBORS, ETC.

Improvement in Sumatra.—Work has been started on the harbor improvements at Belawan-Deli, East Coast of Sumatra. The works, including dredging and the erection of modern wharves, are to cost about £500,000.

INDUSTRY

Another Cotton Mill for China. — Another Chinese Cotton Mill, to be known as the Great China, has been put under way by the organization of a company by Mr. C. C. Nieh, managing director of the Heng Foong Cotton Mill. The capital has been put at Tls. 1,200,000. The new mill will have 30,000 spindles and 12,000 doubling spindles, and will be located at Woosung (Shanghai).

New Industries in Honan.—It is reported that two flour mills, one at Chengchow and the other at Chinghuachen, have been added to the two mills already in existence at Kaifeng, says the "China Advertiser." So far there was only one match factory at Kaifengfu, but now a plan is under contemplation to establish another at Chinghuachen, while another company is going into the business at Chowkouchen, in Siangshui District, in the near future. A leather factory has been established at Kaifengfu under the management of Mr. Wang Pao-yang, former Chief of the Fishery Bureau of Peking. A distillery has likewise been recently established at the provincial capital. The electric lighting company which was established at Chinghuachen but did not begin operations owing to the lack of working funds is now put on a solid financial basis, and is expected to open soon.

Machinery Imports by Japan.—What with the rapid development of electric, waterworks and gas industry in Japan and the general anticipation of the continuation of high prices of commodities in view of the labor trouble, etc., orders for foreign machinery for Japan are now showing a steady rise. The possibility of the adoption of the eight-hour day in Japan, which is bound to decrease production, unless coped with by an increase of machinery, is believed to be another accelerating factor in the import of machinery. Especially large is the demand for spinning machinery. Although the manufacture of machinery in Japan has greatly increased, most orders are still sent abroad. It is, however, pessimistically stated that in the matter of spinning machinery England will be unable to fulfil the new orders from Japan for another two years, and at the same time America's capacity for supply is now limited owing to the large orders she has on hand already. It is reported that the Japanese spinners are turning their attention to Belgium. In view of the large profits amassed, for the disposal of which they are looking for an outlet, they are determined to have the requisite machinery for new or extended mills. In fact some of these enterprising Japanese *narikins*, are going the length of negotiating for the buying up of machinery already installed in Belgium, but they are, of course, not so successful as they were hoping to be, says the "Japan Chronicle," in view of the various difficulties involved in the settlement of the disposal of such machinery. They are nevertheless eager to push on with their aim, studying at the same time the best means to get hold of the machinery. According to statistics published so far, spindles now on order in America number 50,000,000 to 60,000,000, but these figures are stated with the usual Oriental contempt for numerical exactitude.

Fuji Paper Manufacturing Company.—The Fuji Paper Manufacturing Company, the head office of which is in Tokyo, is now extending its mills in Ebetsu in the Hokkaido, Japan, and the work is expected to be over by November next year, when the company's capacity of production will increase to 1,500 tons per month. The Fuji Company is chiefly engaged in the manufacture of paper used for newspapers. At the same time, the company is building mills in Kushiro and Tokachi in the same island for the manufacture of pulp. It is hoped that the company will be able to manufacture more than 1,000 tons of pulp in a month in these new mills.

New Flour Mill in Honan.—A flour mill with a daily capacity of 60,000 pounds recently begun operations at Kaifeng, in the Province of Honan, China. The machinery, said to be of the latest American pattern, cost $50,000.

New Cotton Factory.—A company to operate a cotton mill has been established by Hsu Shih-kwang, brother of the President, and Chow Hseuh-hsi, with a capital of $2,000,000.

Paper from the Sea.—Mention has already been made of a scheme by a group of leading Japanese business men for the establishment of the Dai Nippon Kaiso (Sea Weed) Pulp and Paper Manufacturing Company with a capital of Y.2,000,000. The "Japan Chronicle" is informed that the scheme has practically materialized and an inaugural general meeting of promoters and shareholders will shortly be held. It is said that about 5,000 out of 40,000 shares are to be put on the market for public subscription immediately.

Effect of Shorter Hours on Japanese Mills.—The "Hochi," one of the leading papers in Japan, has published an interesting article on the effect which the adoption of the principles of the International Labor Convention would have upon the spinning industries of Japan. It states that there were in May of this year 42 spinning mills employing 29,000 males and 96,000 females, 5,000 of the total, mostly girls, being under 14 years of age. The proposed enforcement of an 8-hour day would lessen the output by 40 per cent. the cessation of night work by 15 per cent. and of Sunday labor by 16 per cent.

Japanese Rubber Industry.—The Japanese rubber industry has made great strides since the outbreak of war. It is expected, says the "Japan Chronicle," that orders for rubber goods will flow in from Europe, and, indeed, the exports of rubber tyres during the present year has been enormous. A further development of the industry is looked for in the shape of a combination of large and small rubber factories. The desirability of this scheme seems now to have been accelerated by the receipt of large orders from Siberia. The "Chronicle" continues:—The Okura firm is said to have recently received from the new Siberian Government orders for about Y.400,000 worth of rubber tube and Y.200,000 worth of rubber sheet. The company has now given these orders to the Mitado, the Toyo, the Nippon, and the Meiji rubber companies, which are regarded as the best rubber works in Japan, apart from foreign enterprises established here, the Okura-gumi guaranteeing payment. In this connection it is said that these have decided to fill the Russian orders in co-operation with one another, so as to avoid unnecessary competition—or so as to be able to compete with a Kobe company. This co-operation is said to portend amalgamation at an early date, so as to put the rubber industry in Japan on a firm foundation. They are also expected to extend their combination to other factories after this first step.

The Spinning Industry in China.—According to investigations made by the Japan Spinning Association, the number of spindles to be imported to China from America during the current year will aggregate 303,000. Of this number, the purchasers of 201,000 spindles are known but nothing is known regarding the purchasers of the remaining 102,000 spindles. Nothing is added in this statement regarding importations from England.

Tientsin Cotton Mills.—A number of cotton mills are at present under construction in Tientsin. The Heng Yuen Cotton Weaving Co. is putting up a mill, with 200 looms and 10,000 spindles, at a cost of $900,000, to manufacture sheetings, drills, and heavy canvas. The Yuan Textile Co. is erecting an extension for 21,000 spindles to its existing plant with 25,000 spindles. The Wahsing Cotton Spinning Mill began operations with 25,000 spindles at the close of 1918, and other mills are negotiating for the installation of 54,000 spindles at a cost of about £700,000. All these mills will use electric power from their own plants.

New Waterworks for Osaka.—An extension scheme for the supply of water to Osaka provides for a population of over 3,000,000. The new scheme aims at a capacity of supply amounting to an average of 3.2 cubic feet per day to 3,100,000 persons. This average figure includes the demands of Osaka's many factories and workshops. The estimated cost of the extension work is put at Y.9,700,000. Operations were commenced during October. The machinery, etc., required in this connection will include: Three pumps for transmitting water from reservoirs, capable of raising 600 cubic feet of water per minute to a height of 160 feet. The pumps are to be vertical pumps, turbine style, directly connected with motors. Three 1,500 kilowatt dynamos, directly connected with steam turbines and four 1,000 kilowatt transformers for receiving a 3,000 kilowatt current.

New Cotton Mill.—It is reported that one of the largest cotton mills in China is to be erected to the north of Wuchang. It is planned to install 1,000 weaving machines and over 40,000 spinning frames. The machinery is of British and American manufacture. Two thousand workers will be employed, and the promoters are planning to erect 300 dwelling houses to accommodate the spinners and weavers.

Sino-Japanese Tobacco Concern.—Advices from Tsinanfu say that the scheme of establishing a tobacco factory under Sino-Japanese combined capital is proceeding without a hitch. It is stated that a site for the factory has been selected in the railway area at Tsinan, and that arrangements with the Tunghua Tobacco Co. of Changchun, the Sanlin Tobacco Co. of Mukden and the Manchuria Tobacco Co. of Dairen having been satisfactorily completed, the promoters will offer its shares for public subscription soon.

Promotion of China Cotton Industry Company.—The China Cotton Industry Company which has been promoted by Mr. T. Kurachi, Mr. K. Ozaki, Mr. S. Kawasaki and other well-known businessmen interested in China has been organized as a working concern with a capital of Y.1,000,000. Messrs. K. Ozaki and S. Kawasaki has been elected directors, according to a Japanese newspaper. The company will undertake the investment at Hankow in cotton enterprises, the preparation of cotton enterprises, the warehousing of cotton goods, investigations into the conditions and future possibility of the cotton industry in China and some other kindred lines of business.

COMMERCE

Chinese Market for Electric Plants.—There is a market in Swatow for small electric plants consisting of about the following type: 90 K. V. A. (90 per cent. power factor) generator of 2,200 volts and 25 amperes, with engine, without a condenser, making 154 revolutions per minute. The lamp capacity is 5,000 20-watt lamps supplied by an alternating current of 60 cycles per second, delivered to consumers at 110 volts. Electric lighting is becoming very popular in the interior cities, and small kerosene and gasoline generators supplying about 200 lights are used by private concerns. No business can be done by correspondence or by catalogues, says an American Consular report, and in placing the larger orders preference is generally given to bidders who engage to erect the plant and start it in operation, as the Chinese have little knowledge of electric machinery.

Japanese Coal Market Advancing.—Owing to the approach of the cold season and the repeated great strikes in England and America the Japanese coal market presents sudden activity, prices having made a rapid advance. The Joban Coal Mine announced on September 1 a 30 per cent. increase in the price of lump coal and owing to the congestion of fresh orders from Colombo, Singapore, Port Said and other places to the Mitsui and other companies prices have made further advances quite recently. Joban lump coal has gone up to Y170, dust coal to Y70: 1st class Kyushu coal to Y.36 and Hokkaido coal to Y35-36, both for Yokohama delivery. A further advance of about 10 to 15 per cent. is anticipated in November.

Peiyang Fisheries.—The project of forming a fisheries company, to be known as the Peiyang Fisheries, to operate in the waters along the coast of North China, has been under discussion for some months among prominent native capitalists of Tientsin and Peking. Gen. Feng Kuo-chang, ex-President of China, is interested, and a proposal has been made to have American capital participate therein with some arrangement whereby there would be American co-management, the U. S. Consul at Tientsin reports. In order to be in a position to lay all the facts before American capitalists likely to be interested, Mr. F. T. Sun, principal of the School of Fisheries, Tientsin, and Admiral Y. L. Woo, Chinese Navy, in charge of the water police patrol in North China, have been asked for data on the subject. Mr. Sun has been in the United States for a year studying modern methods, having only returned to China in January last. Besides being interested in improving the methods of fishing, he is desirous of developing the industry. Mr. Sun states that a fisheries company is in process of formation and that the period during which the Government grant, about to be applied for, shall run is not limited. The concession embraces the coast from Woosung, Shanghai, up along the Yellow Sea, the Gulf of Chihli, and the Liao and Yalu Rivers. There are 10 promoters, including, besides Gen. Feng, C. S. Feng, M. S. Hsu, H. Y. Chang, and H. T. Chang. The capital of the new company is provisionally fixed at $1,000,000, all of which is to be paid up before operations begin. One-fourth of this amount has been offered by Gen. Feng; the remainder is to be subscribed in equal shares by the other promoters. Provision exists in the charter for the reception of a like amount of American capital. Admiral Woo states that at present no company controls the fishing fleet, which is operated by various independent owners. He adds that the Chinese Government has lately been trying to form a company, with possible American participation, this project being one of many by which the Government hopes eventually to effect an improvement in various lines of industry and commerce.

High-priced Dyes in China.—At the outbreak of the war shipments to China of aniline dyes of German manufacture were practically suspended. The Chinese, realizing the impossibility of further importation of this commodity and the absolute necessity of having dyes, were not slow in buying up all dyes available on the local market and holding them for higher prices. Early in 1917 the prices of "green," which prior to the war, was sold for $0.85 per tin of 20 ounces, easily brought $65 (local currency); and the price of "scarlet" rose from $0.80 to $40 per tin. As a result of this speculation many Chinese made enormous profits. Even up to the present time there are considerable quantities of German dyes in Hongkong, Canton, Wuchow, and Shanghai. It is reported that German dyes of the minimum value of $200,000 to $250,000 local currency are still held by Cantonese merchants. The market prices of a few of these German dyes are given below, the prewar price being quoted in parentheses. All prices are for 20-ounces tins and are in local currency:—

Scarlet, "New Duck" brand, $8 ($0.60); scarlet, "Old Duck" brand, $10.50 ($0.80); phloxine or carthamine, $25 ($1.20); green in crystals, $35 ($1); basic orange, $6.50 ($0.75).

Shanghai Transhipment Privilege.—The Maritime Customs has issued new regulations to be in force for six months from October 1 to March 31, applicable to transhipment cargo from outports destined for Europe or America, whereby such cargo may remain at the importing vessel's wharf, without having to be passed through the customs, for a period of 30 days over and above the prescribed 15 days. A further extension up to another 30 days may be granted on payment of an extension fee of Hk. Tls. 20 for every five days over the 45 days now allowed without payment. After this last period the cargo, if not transhipped, must be imported. On the expiry of the six months' period, transhipment cargo will be treated in accordance with normal regulations; if not transhipped within 15 days, it must be imported.

Trend of U. S. Trade in Orient.—Owing to the high silver exchange, which practically doubles the usual prices of Chinese products and thus tends to decrease exports, smaller quantities of goods than usual will be shipped on vessels returning to the United States, although there is no shortage in the supply, except as regards rice, gunny sacks, and a few other items. The vessels now in service afford sufficient facilities, and cargo shipments to the U.S. from the Orient this year must come largely from Japan, the Philippines, Java, and India.

The Union Club of Shanghai.—The first meeting of the Union Club, the co-operative society formed in Shanghai by American, British and Chinese businessmen, marks a pleasant union of the two Western nations, who have long been the very backbone of foreign trade in China, with the Chinese. Sir John Jordan's message was very happily phrased where he mentioned to the Club the fact that the Americans, Chinese and British have "lived and traded together for generations, and in no country has trade been conducted with greater mutual confidence and degree of good fellowship than in China." The result is shown in the new Club, which comes into being under the most favorable auspices, and at a time when friendship among the three communities is standing high.

Pig Iron Prices in Japan.—The Japanese pig-iron market is now becoming firmer. Towards the end of last month market prices stood at about Y.150 per ton, but increased to Y.160 on October 6, with a sign of a further rise. It is believed that the quotations will exceed Y.200 in the near future.

Japan's Trade.—According to the rough summary of September's trade returns as published by the Japanese Finance Department, says the "Japan Advertiser," the total value of the month's exports was Y.172,889,000, against Y.185,692,000 for the same month last year. There was accordingly a decrease of Y.12,803,000. The total value of imports reached Y.195,433,000 against Y.132,602,000 for the same month last year, there being an increase of Y.62,831,000. The balance of trade which is unfavorable to Japan as the result of this excess of imports, is Y.22,544,000. During September last year the balance was much larger amounting to Y.53,090,000; and it was favorable to Japan. In exports rice, starch, tea, refined sugar, beer, cotton yarns, iron, copper, zinc, leather goods, silk and cotton fabrics, woollen piece goods, knit goods, hats, paper, Portland cement and some minor articles decreased more or less while raw silk, beans, waste silk, coal, timber, buttons, toys and some other articles increased. In imports on the other hand only sugar, hemp and flax, wool, saltpetre, coal, ores, copra, coaltar dyes, iron and steel, lead and petroleum fell off. All other articles registered gains. Among others machinery more than doubled last year's figure.

Cotton Yarn at High Price.—The Japanese cotton yarn market is once again enjoying a great boom. On October 6, the Osaka Sampin (cotton) Market rose to Y.603.90 per bale for October delivery—a most extraordinary price. Such a rise is regarded as an ironical reply to the House of Peers' warning to the Government regarding the regulation of prices and also to the announcement of an increase in the rate of interest by the Bank of Japan, says the "Japan Chronicle." The expectation of the shortage of stocks for sale on the market is believed to be the chief cause of the present rise and it is said that it is the buyers and not the sellers, who are showing most activity.

Hongkong Piece Goods.—The demand for nearly all lines of cotton piece goods which has existed in North China for some time has finally been reflected in market conditions in Hongkong, and piece goods importers there believe that fair business may be anticipated. The Hongkong trade in all staple lines has been particularly active, especially in greys and whites; in fact, the demand for some goods has been so brisk that deliveries have been made directly ex ship. A very considerable portion of Hongkong stocks have been shipped to North China to meet the stronger demand there, and sales have been made at advanced prices, though, as a rule, the Hongkong prices have not advanced as rapidly or as far as replacing costs. There has also been a very brisk trade in some grades of fast-black Italians and Venetians and practically all other items in Fancies. Orders have been placed recently for a very fair supply of American fancy goods—the best line of orders the United States has received from the Hongkong piece-goods market for some time. Trade has been greatly interfered with by the delay in cable service, which has been so great most of the time that prices have advanced beyond the reach of Hongkong orders while the latter were in transit.

Accumulation of Goods in Vladivostok.—There is now a huge accumulation of goods at Vladivostok owing to the unsatisfactory service of railway transportation in the interior of Siberia. At the end of September there were 155,000 tons lying idle in Vladivostok, consisting chiefly of tea, metallic utensils, agricultural implements, metals, tanning materials, machinery, big iron, beans, other cereals, etc. Most of these consignments have come from Japan or America, and owing to the decline of the rouble, there is, it is said, much trouble between consignors and consignees in the matter of delivery.

Japanese Commerce.—In a review of Japanese commerce for the half-year ended June 30, Mr. N. Kajiwara, the President of the Yokohama Specie Bank, has given some information from the banker's point of view which reflects the present state of affairs in Japan. A depression which came after the signing of the armistice continued till April, he said, when the general aspect of economic conditions began to make a turn for the better, and towards the end of the period under review showed that prosperity which had been anticipated at the time the armistice was signed. A revival in the shipping business and the conversion to peace pursuits of those business and industries temporarily engaged in war activities assisted to that end, while raw silk rose to the record of Y.2,300. As regarded the money market, international financial conditions remained favorable to Japan, notwithstanding the excess of imports, and the local banks having maintained a cautions attitude, a somewhat easy tone prevailed. Towards the end of the period under review, the demand for funds greatly increased as a consequence of the expansion of general economic conditions and the briskness of trade but, nevertheless, the half-year passed smoothly and without disturbance. The banks are now contemplating strengthening their positions either by amalgamation or by an increase of capital; and the new method adopted by the Bank of Japan of discounting foreign bills accepted by the banks has been a stimulant to no little degree to the financing of foreign trade as well as to the creation of a discount market in Japan. Foreign trade showed an excess of imports, imports amounting to Y.1,049,000,000 and exports to Y.827,000,000. Imports had increased by Y.209,000,000 and exports decreased by Y.69,000,000 as compared with the same period of last year. The decrease in exports was due primarily to the stagnation of business following the armistice and pending the signature of peace, and also to the decrease in the demand for Japanese manufactures abroad. Turning to the Orient, Japanese exports to India amounted to about Y.140,000,000 and imports to Y.47,000,000, showing decreases of Y.33 and Y.37 millions respectively under last year. In Hongkong the export trade was, generally speaking, dull, and the import business also bad, especially as regards imports of Japanese yarns, which were supplanted by Chinese and Indian products. In view of these circumstances, the demand for funds was so small that money was very plentiful, but in April a tightness was felt on the Shanghai market and as a result of the eagerness of the Banks to remit there the stringency was reflected in Hongkong. As for trade with China, during the first three months of the year Japanese trade with that country was not in a flourishing condition, but in April conditions improved. The sale of imported goods was satisfactory until May when the boycott of Japanese goods began in a large number of places, those at Shanghai and Tientsin being the most violent. In June, Japanese transactions at both these places practically ceased. The Chairman concluded with the observation that in spite of the fact that conditions had required careful watching in view of the high price of silver, the boycott of Japanese goods, and other difficulties, they were able to make a better report than that of the previous year.

American Drug Company Expending.—The newly formed American Drug Company of Shanghai, a wholesale and retail establishment, is solving the problem of distributing its goods by the establishment of branches at inland ports. Branches will be instituted at Hankow, Soochow, Tientsin, Peking, and places on the Yangtze River. After establishing themselves in the North the Company will extend its business to South China. The company is now preparing to enlarge its manufacturing capacity by the construction of four buildings.

Wool Combine.—The combination of the Tokyo Wool and the Manmo (Manchuria and Mongolian) Wool Manufacturing Companies was effected on October 6, when a provisional contract for amalgamation was signed.

Sino-Japanese Trade.—According to statistics published by the Department of Finance, Chinese-Japanese trade during September aggregated Y.26,557,000 in exports and Y.19,440,000 in imports, showing the excess of exports over imports by Y.7,117,000. Exports during the nine months of the present year amounted to Y.313,021,000 in value and imports to Y.222,117,000, the excess of exports over imports being Y.90,904,000 in Japan's favor.

Exhibition of East Indies Products.—Merchants interested in the trade between Japan and the Netherlands Indies propose to hold a circulating exhibition of South Sea products at Tokyo, Yokohama, Nagoya and Moji in turn, and afterwards the exhibits will be contributed to commercial museums in those places for purposes of Japanese merchants' future reference. The scheme is expected to be brought into execution about April next year, says the "Japan Chronicle."

Telegraph Communication with China.—Nearly every phase of the development of American commerce and interests in the Far East is so involved with the question of the present trans-Pacific telegraph capacity that merchants in China are much concerned with every move towards the increase of cable and wireless communications with the United States. Recent moves have been the proposed use of the Government wireless facilities for the transmission of news by the present news bureaus, and the proposal put before the Senate for an additional trans-Pacific cable which would touch Honolulu, Manila and Asiatic ports. The greater need at present is for improved service for commercial messages, for the present commercial service puts a handicap on dealings with Chinese who want firm prices (and usually C. I. F. prices) before closing their deals, while during the time an inquiry has been cabled home, a reply received, and the order has been placed, fluctuations in market prices annul the whole proceeding.

Rice Inflation Punctured.—Rice speculators showed the possibilities in the way of a general reduction in the price of Chinese products by suddenly placing their holdings on the Shanghai market at a reduction of $2 to $3 per picul, bringing the price to $9 and even less, when they discovered that their prices were too high and they were at the same time faced with the necessity of getting together cash to pay their obligations in the interior at the approach of settling day, marked by the Mid-Autumn Festival.

American Aeroplane Manufacture Active in East.—American manufacturers of aeroplanes have had their interest in the Far Eastern market heightened by the transactions which have taken place between Asiatic governments and European manufacturers of flying machines in recent months. The Curtiss Corporation, an American concern, is entering into the business intensively with a branch and a school of aviation at Manila, and Major J. E. Hamilton Stevenot, the Far Eastern representative of the Corporation, is in China for the purpose of opening offices at Peking and elsewhere. In the Philippine Islands the government is establishing aerial mail service which will connect points in the archipelago, formerly "weeks apart," within a few hours; and the quantity of correspondence and traffic now passing between points in China by extraordinarily slow means of communication is greater than in the Philippines. The Curtiss Corporation has this state of affairs in mind in making aid for business in China.

M. Y. San & Co.'s New Store Opening.—Messrs. M. Y. San & Co. have opened their new premises at No. 37 Nanking Road, Shanghai. The premises consist of a store and ice-cream parlour on the ground floor, restaurant above, bakery, kitchen, pantry, store rooms, and rooms devoted to the management on other floors. The biscuits and confections sold over the counter and served in the restaurant, are all manufactured at the firm's factory in Hongkong where the latest American machinery is installed. Incidentally they have their own glass and tin factories where their containers are made and also a printing office. The firm intends to establish a factory in Shanghai in the near future in conjunction with a flour mill and a sugar refinery with which to supply their own needs, as they have so many orders that their Hongkong factory cannot cope with them all.

Japanese Toy Trade.—The export of Japanese toys has become very brisk especially so since the outbreak of the European war. In 1897 the volume exported abroad amounted to Y.245,000 in value which swelled gradually so that the total export in 1914 amounted to Y.2,591,000; Y.4,533,000 in 1915; Y.7,640,000 in 1916; and Y.10,190,000 in 1918. They are exported mostly to America, British India, Australia, Canada and South Sea Islands.

Chinese Exchange.—The announcement from New York to the effect that silver producers in the United States are discussing the advantages of forming a silver export association under the Webb-Pomerene Act, permitting combination of produce and manufacturers in the export trade, points to further possible advances in the price of the metal with corresponding decreases in the purchasing value of gold currency in China. Senator Pittman, author of the war act fixing the minimum price of silver at 101 cents an ounce, strongly advocates the plan, and believes that within a week of the formation of such a combination silver would reach 129 cents. In fact, that point is not far distant with a Shanghai tael selling for Gold $1.31 to Gold $1.40 or even more as during the month; and the prospect of having silver reach even higher levels through the operations of the producers is causing many merchants to ponder about their future. There are two classes of thinkers on the future of Chinese commerce under the increased cost of silver. One class believes that if much more gold currency is required for the purchase of a tael's worth of Chinese merchandise, the Chinese export trade will be wiped out, thus leaving no credits in China against which foreign goods can be imported. The other believes that the rising cost of raw products abroad gives such a leeway between home market prices and Chinese market prices that much more gold can be paid for a tael's worth of Chinese merchandise than is required at present, should the necessity arise, and that exports will continue. Not much attention has been given to the fact that Chinese exporters can content themselves with a lesser amount of silver, for at present it is evident that market prices at the ports are considerably inflated, a condition which has largely been brought about by speculation. When Chinese exporters find the demand from abroad beginning to fall off, with the imminent danger of a congestion of unsalable exports coming about and the demoralization of the market in sight, they will meet the situation, if they are the shrewd business men of the foreigner's tradition, by being satisfied with less silver. Should high prices forbid the exportation of more than actual necessities, it is well to still bear in mind that while twice as much gold is required to buy the tael's worth of produce, the tael's worth of produce is worth twice as much foreign merchandise as it was worth two years ago. So imports will continue somehow, no matter how much further exchange rises.

Japanese Trade with Russia.—According to investigations made by the Russo-Japanese Association, Japan's trade with Russia for the month of July totalled Y.5,163,284 in exports and Y.675,915 in imports, the favorable balance amounting to Y.4,487,369. The chief articles for exports comprises mineral oil amounting in value to Y.2,023,827, woollen cloth Y.296,886, stripped cotton cloth Y.237,639, cotton flannel Y.440,153, printed cotton Y.237,488, and table salt Y.175,000.

Glue Trade in China.—While unrefined glue and glue stocks are extensively found in China, no effort has as yet been made to refine glue on any large scale, and a considerable quantity is still imported. Glue imports into China during 1917 amount to 1,593,600 pounds, and during 1918 the United States exported to China 405,844 pounds of glue, valued at G.$100,202.

Conference of British Chambers of Commerce.—The first conference of the British Chambers of Commerce in China has been called for November 5. The conference will be opened in Shanghai on that date and will be attended by the leading British business men in China. The meeting will be officially opened by Sir John Jordan, H.B.M.'s Minister to China, and the executive sessions will be presided over by Mr. H. H. Fox, the Commercial Attaché. The British Chambers of Commerce of China, Hongkong and Japan are sending representatives. At this meeting common British interests will come under discussion, and an effort will be made to determine a common line of policy for promoting British trade in the Far East. It is hoped that the American business men of China, as well as those of other nationalities, will follow suit with similar meetings. There is a need of cooperation in trade among other nationals in China, and it is a source of great satisfaction that British business men at least are getting together.

Petroleum Market in Japan.—Since the fall by two yen of the quotations in August last, the petroleum market in Japan has been in a chaotic condition. It, however, has become somewhat stable of late, and a tendency to soar is noted. According to official statistics mineral oil imported into Japan between January and July totalled as follows:—

	Jan.-July 1919 gallon	Increase or decrease against 1918 gallon
Naphtha	812,358	— 578,801
Crude petroleum ...	341,321	— 929,787
Cannel petroleum ...	3,539,399	— 2,947,078
Other petroleum ...	13,320,697	+ 4,718,518
Machine oil	11,234,606	— 1,854,932

As will be seen in the above table, an increase was experienced in the import of illuminating oil, but others showed a decrease as against the same period last year; and yet there is no sign of imports increasing. Now that the output of oil in Japan is expected to show a decrease of 8 or 9 per cent., and demand is also expected to be heavy, it is not anticipated that quotations will indicate a fall.

Dairen Bean Trade.—Owing to the very large demand from Europe, the Manchurian bean and bean oil market has shown great activity, and it is said that over 1,000 carloads of beans are dealt in daily on the Dairen Produce Exchange. One firm is reported to have contracted to ship 200,000 tons of beans to Europe, chiefly to Italy and Germany.

Andersen, Meyer Succeed Old Canton Firm.—The well-known and long-established French firm Meurer Freres at Canton has been acquired by the firm of Andersen, Meyer & Co., Shanghai, who took control of the business on October 1.

New Commercial Part in Honan.—Taking the lead from the Civil Governor of Honan, who proposed to open a commercial port at a point four miles northwest of Chenghsien, an important station in the Peking-Hankow Railway, the prominent citizens and merchants of Chenghsien have suggested the idea of tearing down the city wall and making Chenghsien itself a commercial port. They have accordingly drawn up a detailed statement which will soon be presented to the Government for sanction.

MINING

Iron Ore from Chinlingchen.—The transportation of ore from the Chinlingchen Iron mines, Shantung, is going on smoothly, over 500 tons arriving at Tsingtao every day, says the "Tsinga Shinpo." If the supply of cars be abundant the shipment of 800 tons per day can be made without any difficulty. At present there are nearly 30,000 tons of ore piled at the wharf waiting for transportation to Japan. It is understood that the shipping company which is undertaking the transportation of the ore will bring ten ships now used on the Chinnanpo line to port as soon as the winter sets in and the navigation to the Korean port becomes impossible, so that the shipment of ore can be facilitated.

F.M.S. Shipments.—The total exports of the principal metals from the Federated Malay States in 1918 were as follows: Gold, 18,309 ounce (1917, 18,154 ounces); wolfram, 710 tons (1917, 340 tons); tin and tin ore, 37,370 tons (1917, 39,833 tons). The estimated value of the tin in Singapore for 1918 was $57,018,657, compared with $41,259,504 in 1917.

Kuangsi Mines Closed.—The results of the present lack of transportation in China are shown by the fact that, while the cost of mining coal at Siwan, in Kuangsi, is reported to be about $1 a ton, the expense of moving it to Canton is about $11 a ton. Since the coal is not of high grade, it cannot compete with coal imported from other places by sea, and so the mines have been closed, and the expensive machinery is idle.

Iron Ore from China.—The "Osaka Mainichi," states that by virtue of agreements existing between Japan and the management of the Taiyeh and other iron mines in the Yangtze Valley, Japan will be able to obtain an abundant supply of iron ore from China for many years. Under these agreements the Government Iron Foundry in Kyushu and other establishments in Japan are to obtain a supply of 360,000 tons this year, and the supply for next year will amount to 600,000 tons. A British expert is of opinion that the total output from the Taiyeh iron mine will be 9,000,000 tons, while Japanese experts estimate that the output will be much larger. Mining operations will shortly be started at the Hsiang-pi-shan (the largest in the Yangtze Valley) and other mines, and Japan will obtain a supply of iron ore from thence. It is further reported that Japan has made another agreement with the management of the Shengmen iron mine in the Yangtze Valley for a supply of ore.

Valuable Find in South China.—The Hongkong Steel Foundry Co., Ltd., reports the discovery in Kuangsi and Kuangtung provinces of an unlimited quantity of iron ore. Steel constructed therefrom may be driven through a piece of wrought iron over an inch thick, and is hard enough to cut glass like a diamond, and yet so flexible that it may be bent without breaking. This steel has a wide temperature range, as it may be heated anywhere between 1650 and 1950 degrees Fahrenheit and yet give good results.

Oil Concessions in China.—It is reported that the Chinese Mining Corporation, Ltd., which was recently organized, desires to obtain concession for working oil-fields in Szechuan, Sinkiang and Shensi provinces. Recently the company lodged a petition with the authorities asking for permission for a prospecting tour by three British experts.

Mines in West Szechuan.—An article in the "North-China Daily News," written by Mr. A. J. Clements, states that a mica mine is being worked by a Chinese Syndicate at a point north of Tachienlu, Szechuan, where mica is found in outcrop and under the surface. Mica in pieces of a foot square is worth $1 an ounce on the Shanghai market. The mine is about 10 days journey from Yachow, the nearest practical waterway, and the output will have to be transported overland for this distance. Gold is found in numerous places on the Border. Both the crushing and washing processes are used. Coal has not yet been found near Tachienlu, the nearest so far being at Longpapu, four days' journey distant. There are traces of coal in the district, but numerous attempts at locating large deposits have failed through lack of perseverance or insufficient capital. Asbestos of various qualities seems to be fairly plentiful throughout the whole region, including the districts of Yachow, the Chienchang Valley, and the mountains around Tachienlu. There is a lead mine in the Tong Valley above Wasikeo, which employs about a score of persons. Part of the output is disposed of in Tachienlu to Tibetans; the remainder finds an outlet on the plain. The same locality could also produce silver, it is said, but silver is not mined because of the difficulty in smelting it. The introduction of modern machinery and methods should solve the difficulty.

Kailan Mining Administration.—Weekly figures of production and sales are as follows:—

Week Ending:	Output, Tons:	Sales, Tons:
September 13	65,118	78,252
September 20	58,682	62,532
September 27	72,660	83,757
October 4	74,895	71,402
October 11	69,703	69,982

Seoul Mining Co.—The treating plants on the Suan Concession milled a total of 15,600 tons of ore, during the month of September, for a total recovery of Y.192,108.20.

Mineral Output in Japan.—According to reports of the Department of Agriculture and Commerce, the yield of chief minerals and metals produced during the month of August was as follows:—

	August, 1919	Percentage of increase or decrease against August, 1918	Jan.-August, 1919
Gold ...	153,337 momme	—13.4	1,201,193
Silver ...	3,359,718 ,,	—22.6	26,547,720
Copper	11,044,359 kin	+ 0.3	84,240,409
Iron ...	6,532 tons	+17.5	48,057
Coal ...	1,876,974 ,,	+ 9.0	17,022,417
Petroleum	167,167 koku	— 5.1	1,261,813
Sulphur	4,487 tons	—12.0	298,720

CONSTRUCTION

New Shanghai Hotel.—The project for a new hotel in Shanghai is definitely taking shape. Mr. W. O'D. Iselin, of the firm of Warren and Wetmore, New York architects, who planned the Commander and Biltmore hotels in New York, is now in the East for the purpose of drawing plans for the 500-room hotel to be built opposite the Race Course, on Nanking Road, Shanghai. The hotel will be constructed by the Shanghai Hotels, Ltd., of which Mr. Edward Ezra is chairman of the board of directors.

Dollar Line Plans Construction.—The Robert Dollar Company plan for Shanghai the construction of a seven-story office building and godowns, and the extension of wharfage capacity opposite Shanghai. The new office building will have a frontage of 150 feet on Canton Road, next to the Union Building, and will be 80 feet in depth. It will be a steel frame and concrete structure, and will be entirely American in design. At Pootung an up-to-date freight terminal will be built. A two-story godown of reinforced concrete, 80 by 200 feet, and a steel frame structure of one story and the same dimensions are to be erected. The present wharf will be extended 450 feet, doubling the present wharfage capacity.

Japanese Tobacco Factory at Mukden.—It is reported that the To-a Tobacco Co. has decided to build its workshop at Mukden at a cost of Y.600,000. But as the weather is rapidly approaching the freezing season, work will not be started until next spring. The work on their offices and residences, which is now going on, will likewise be suspended soon, says the "China Advertiser."

Building Project for Osaka.—The millionaires of Osaka propose establishing a company with a capital of Y.10,000,000 for the purpose of building tenement houses primarily for the accommodation of salaried men.

FINANCIAL

Capital Invested in Banks and Companies.—According to investigations made by the Bank of Japan, the total amount of authorized capital invested in banks was, at the end of August, 1,401 million yen (952 million yen was paid up); and that invested in various joint-stock companies was 7,072 million yen (3,998 million yen was paid up). Below is given details for the past five years:—

	Banks		Companies
	Authorized	Paid-up	Authorized
At the end of Aug. of 1919	...1,401	952	7,072
,, 1918	...1,311	888	6,019
,, 1917	...1,138	770	3,685
,, 1916	... 977	682	2,555
,, 1915	... 948	655	2,236

From these figures it is noticed that banks, during the past five years, increased capital by 453 million yen in authorized, and by 297 million yen in paid-up, while joint-stock companies extended by 4,336 million yen in authorized and by 297 million yen in paid-up capital. This enormous expansion of business enterprise is undoubtedly accounted for by the war-boom; and it is feared, in some quarters, that a reactionary depression is quite probable with the advent of post-bellum re-arrangement of finance.

Marine and Fire Insurance.—The Osaka Marine and Fire Insurance Co., Ltd., had a very satisfactory year's working, as shown by the report for the year ended March 31. The net premia for the year, after deducting returns and re-insurances, amounted to Y.5,552,340. After appropriations had been made for the Underwriting Reserve Fund and Suspense Account, there remained a balance of Y.943,654 and this has been disposed of as follows: Legal reserve fund, Y.77,000; Bonus, Y.85,500; Dividend at 10 per cent., Y.216,500; Special dividend at 20 per cent. Y.433,000; carried forward. Y.132,154. The company has a subscribed capital of Y.10,000,000, of which Y.2,790,000 is paid up.

New Men for Bank of Asia.—Five new men for the staff of the Asia Banking Corporation in the East have arrived at Shanghai, and will be distributed among the various branches. All the newcomers formerly held commissions in the American army.

Philippine National Bank.—The resources of the Philippine National Bank have now reached a total of Pesos 261,130,177.16, according to the statement of accounts for the first six months of this year. Resources last year were Pesos 210,942,-000 and in 1917 were Pesos 98,035,000. The reserve fund has now reached Pesos 5,187,409.95, which is about one-half the Bank's capital. The following is the condensed statement of the Bank at the close of business June 30, 1919 :—

Resources.	Pesos
Loans and discounts	155,788,440.10
U.S. and Philippine Government bonds	1,329,404.28
Furniture and fixtures	215,237.13
Exchange for future delivery ...	14,524,420.23
Due from branches	5,344,457.30
Due from banks and bankers ...	5,519,879.63
Cash in vault and with treasurer of P. I.	46,336,092.53
Customers' liability L/C and acceptances	31,972,245.96
	261,130,177.16

Liabilities.	Pesos
Capital	10,976,650.00
Reserve funds	5,187,409.95
Reserve for taxes, etc.	842,720.68
Dividends unpaid	12,891.03
Circulation	13,991,455.00
Acceptances	3,839,655.96
Exchange contracts	13,095,506.56
Commercial credits	21,129,017.04
Deposits	192,055,870.94
	261,130,177.16

The Revenues of Japan.—The total Japanese revenue up to the end of September was Y.314,726,-335.93 against Y.261,799,477.10 for the same period last fiscal year, there being a gain of Y.52,926,-858.83. Ordinary revenue which amounted to Y.265,636,978 up to the end of September, showed an increase of Y.48,346,544.

Japan's Specie.—According to investigations made by the Department of Finance on September 30, the total amount of specie stood at Y.1,871,-000,000, showing an increase of Y.62,000,000 over the 15th of the same month.

Below are shown the particulars :—

Held by—

Government	Y.1,053,000,000
Bank of Japan	818,000,000
At home	526,000,000
Abroad	1,345,000,000

A classification of the increase of Y.62,000,000 already referred to shows the following result :—

Government	+ Y.26,000,000
Bank of China	+ 36,000,000
At home	+ 35,000,000
Abroad	+ 27,000,000

Yokohama Specie Bank.—At the 79th meeting of Shareholders at the half-yearly ordinary meeting, the Yokohama Specie Bank made the following announcement :

The gross profits of the bank for the past half-year, including Y.3,201,563.96 brought forward from last account, amount to Y.103,696,589.09, from which the sum of Y.94,399,754.06 has been deducted for interests, taxes, current expenses, rebate on bills current, bad and doubtful debts, bonus for officers and clerks, etc., leaving a balance of Y.9,296,835.03 for appropriation. The directors propose that Y.3,000,000.00 be added to the reserve fund, and recommend a dividend at the rate of twelve per cent. per annum, which will absorb Y.2,520,000.00. The Balance, Y.3,776,-835.03, will be carried forward to the credit of next account.

Japanese Currency Inflation.—According to investigations made by the Government, the volume of currency in Japan at the end of August of this year aggregated Y.1,552,729,000, showing an increase of Y.71,450,000 and Y.338,745,000 respectively compared with the previous month and the corresponding period of last year. From these figures, it is most probable that there will accumulate a volume of some 1,800 million yen or more in currency at the end of this year. Details at the end of August were as follows :—

	August (in 1000 yen)	Increase against July
Gold	61,229	837
Silver	143,252	539
Nickel	10,816	50
Bronze	3,786	120
Copper	7,991	—
Petty paper money	119,200	3,300
Bank Notes :		
Bank of Japan ...1,043,400	59,495	
Bank of Chosen ... 120,230	8,349	
Bank of Taiwan ... 42,727	1,251	(decrease)
Total 1,552,729	71,450	

Japanese Rates of Interest Raised.—It was announced by the Bank of Japan that rates of interest were raised on and after October 6 as follows :—

Discount for commercial bills. 2 sen per Y.100 per day (raised by .2 sen).

Discount and loans with government bonds as securities. More than 2 sen per Y.100 per day (raised by .2 sen).

Discount and loans with various securities other than government bonds. More than 2.2 sen per Y.100 per day (raised by .3 sen).

Overdraft and Correspondence. 2.3 sen per Y.100 per day (raised by .2 sen).

The measure taken by the Bank is no doubt quite timely in order to regulate more or less the present abnormal condition of the money market, but it is feared, in some financial quarters, that the rate of interest thus raised is so slight that it will not be sufficient to deflate the currency and prevent the mania for reckless and unscrupulous business enterprises now prevalent in Japan.

A Big Bank Promoted.—The volume of business on the Tokyo and the Osaka Stock Exchanges has grown so rapidly in the last few years that the banks accommodating speculative capital have fallen far behind the progress of the stock market with their old scope of capital and business accommodation. For this reason a bank with a capital of 10 million yen is being promoted by Mr. T. Shima, one of the leading figures on the Osaka stock market, and his friends in Osaka. It is hoped that this institution will be organized as quickly as possible as a financial aid to stock market operators.

New Enterprises in Chosen.—Various companies having their headquarters in Chosen, numbered, at the end of 1918, 266 with an aggregate capital of Y.125.620,000 (69,860,000 being paid up), showing an increase of 38 in the number of companies and Y.46,000,000 in the amount of capital as compared with the previous year. This phenomenon is chiefly accounted for by increasing opulence among Korean farmers as a result of the high price of agricultural products.

MISCELLANEOUS

Tourists in Japan.—Returns compiled by the Department of Finance show that 15,341 foreigners entered Japan during the first half of this year. The countries whose subjects entered that country to the number of 1,000 or over are as follows :—Great Britain, 1,603; United States of America, 2,434; Russia, 2,745; China, 6,889.

Shanghai Shopkeepers' League.—An organization of the most substantial Chinese shopkeepers of Shanghai has been effected for the purpose of promoting harmony between foreigners and Chinese and bringing the merchants of the East and West together in a better understanding of the needs of Shanghai. Their desire is to make Shanghai the greatest port on the Pacific. The League has announced its attention of doing anything and everything to bring about their ideals.

New Pacific Cable.—A New York dispatch says that on his arrival from England, Mr. Ward, the Vice-President of the Commercial Submarine Cable Company, stated that a new submarine cable would be laid between San Francisco and Tokyo direct within a year. He hoped that it would be put into operation next summer. A contract had been entered into with a British company for the manufacture and laying of cables. In his opinion, British companies can produce cables of the best quality.

Long Distance Phones for China.—A long distance telephone system between Shanghai and Peking and linking up the important cities lying between is the latest step forward in the improvement of communications in North China, according to "The China Press." A long distance line from Peking to Hankow is another feature of the program, which is to be executed by the China Electric Company under contracts with the Ministry of Communications, while still another project calls for the establishment of a wireless telephone service between Peking and Tientsin. Besides the two new lines between Tientsin and Peking, which will give a total of eight lines between those cities, and the work in the North, the China Electric Company is to undertake large extension work in the local system of Peking and Tientsin and the construction of exchanges in the suburbs of Shanghai and nearby cities. All the plants will be of American common battery type, which does not require the cranking of a magneto to signal the operator.

Japan-Shanghai-Hongkong Air Service.—According to a San Francisco telegram Mr. Ricou, a French aviator who resides at Hongkong, has bought five seaplanes and five airplanes in America for commercial use in China and Japan, with the object of carrying passengers between Yokohama, Shanghai and Hongkong. The Japanese newspaper "Mainichi" says that the Japanese authorities are in receipt of similar information and remarks that the Director of the Japanese Air Section of the War Office says that any business undertaking of this kind which involves a flight over Japanese territory by a foreign aviator will not be permitted by the Japanese Government.

China Needs Motor Roads.—It is obvious that automobiles cannot be sold in Chinese cities unless these cities have roads on which the motor cars can operate. The results already obtained, however, in localities having good roads, have caused the suggestion to be made that a combination of motor-car companies might advance capital to the provincial governments to be used in road construction.

Chinese Lumber.—A large percentage of the lumber imported into North China is red and white pine, and comes from the region of the Yalu River, Northern Korea, and Southern Manchuria. It is brought over in hewn logs by small coasting steamers and junks to Tientsin, whence a large quantity is conveyed into the interior by raft. This is the cheapest lumber sold in this market and is most extensively used.